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# Greatland Gold plc ("Greatland" or "the Company")

#### Updated Mineral Resource substantially increases Havieron Resource and Reserve

Mineral Resources (including Ore Reserves) increase to 5.5M oz Au and 218kt Cu or 6.5M oz AuEq<sup>1</sup>, an increase of 2.1M oz AuEq<sup>1</sup> since the last Mineral Resource update

Probable Ore Reserves now stand at 2.4M oz Au and 109kt Cu or 2.9M oz AuEq<sup>1</sup>, compared to the 1.7M oz AuEq<sup>1</sup> in the Initial Ore Reserve estimation

Initial Mineral Resource estimated in the Eastern Breccia

Updated Mineral Resource incorporates an additional 10 months of consistently impressive drilling results since the February 2021 drilling cut-off used for the last Mineral Resource update

#### Havieron Mineral Resource Update Highlights\*

- A 53% increase in total gold content to 5.5M oz Au (6.5M oz AuEq<sup>1</sup>)
- A 63% increase in Indicated Mineral Resource gold ounces to 3.1M oz Au
- An Initial Inferred Mineral Resource estimated at the Eastern Breccia
- Mineral Resources include 33Mt @ 3.28 g/t Au and 0.48% Cu (containing 3.5M oz Au and 158kt Cu or 4.2M oz AuEq<sup>1</sup>) in the South East Crescent Zone
- Update has been subject to a detailed analysis and review, independently assessed by SRK Consulting and are reported in compliance with JORC (2012) guidelines

#### Updated Mineral Resource estimate for the Havieron Deposit (100%)#

Classification	Tonnage	Grade		Metal C	AuEq <sup>1</sup> Metal	
	Mt	Au (g/t)	Cu (%)	Au (M oz)	Cu (kt)	AuEq (M oz)
Indicated	35	2.8	0.42	3.1	146	3.8
Inferred	57	1.3	0.13	2.4	72	2.7
Total Mineral Resource	92	1.9	0.24	5.5	218	6.5

# Results are reported to one (gold) and two (copper) significant figures to reflect appropriate precision in the estimate, and this may cause some apparent discrepancies in totals. Results represent 100% of the Mineral Resource for Havieron. Mineral Resources in the Crescent are reported within a A\$80 NSR/t shell while Mineral Resources in the Breccias are reported within a A\$50 NSR/t shell. Resources are inclusive of Reserves.

\* The Updated Mineral Resource Estimates assume selective mining of the South East Crescent Zone and bulk extraction in the Breccias and are reported inside A\$80 or A\$50 Net Smelter Return/t<sup>2</sup> ("NSR/t") shells respectively.

#### Havieron Ore Reserve Update Highlights

- 50% increase in contained gold ounces to 2.4M oz Au (2.9M oz AuEq), including an 86%<sup>3</sup> conversion of Indicated Mineral Resources to Probable Ore Reserves
- The conversion rate of the South East Crescent Zone reiterates the robust nature of the South East Crescent Zone within the Havieron deposit while providing confidence in the ongoing conversion of further South East Crescent Zone material as drilling continues
- Update has been subject to a detailed analysis and review, independently assessed by SRK Consulting and are reported in compliance with JORC (2012) guidelines

	Tonnage	Grade		Metal Content		AuEq <sup>1</sup> Metal	
	Mt	Au (g/t)	Cu (%)	Au (M oz)	Cu (kt)	AuEq (M oz)	
Proved	-	-	-	-	-	-	
Probable	25	3.0	0.44	2.4	109	2.9	
Total Ore Reserve	25	3.0	0.44	2.4	109	2.9	

## Updated Ore Reserve estimate tabulation for the Havieron Deposit (100%)^

^ Data is reported to one (gold) or two (copper) significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals. Data represents 100% of the Ore Reserve for Havieron. Ore Reserves are reported above a cut-off of A\$95 NSR/t and reported within mining shapes based on a sub-level open stoping mining method. All reported metal was derived from the South East Crescent Zone only.

Greatland Gold plc (AIM:GGP), a leading mining development and exploration company with a focus on precious and base metals, is pleased to provide an independently assessed update on the Mineral Resources and Ore Reserves at the Havieron gold-copper deposit in the Paterson region of Western Australia. The update is based on increased drill density throughout the deposit with a further 87 drill holes for 59,270m completed since the last Resources and Reserves update published in the Pre-Feasibility Study ("Stage 1 PFS"), which used drill data up to February 2021.

# **Havieron Growth**

- This Resource update is at a 'point in time', with a 2 December 2021 cut-off for drilling information used to inform the Mineral Resource Estimate
- Drilling is ongoing, with extension drilling targeting the South East Crescent Zone at depth, while growth drilling targeting the Eastern Breccia is underway with initial high grade intersections, evidenced by HAD104<sup>6</sup> being comparable to those seen at the South East Crescent Zone, demonstrating a promising start
- Drilling is also underway to continue to assess the broader Havieron breccia system's suitability for a bulk mining approach
- Concurrent studies underway to assess production rates greater than 3 million tonnes per annum ("Mtpa")
- Targeting a further 40,000m of growth drilling in the year to 30 June 2022 which has the potential to further expand the Havieron resource

**Shaun Day, Chief Executive Officer of Greatland Gold plc, commented:** "This Mineral Resource and Ore Reserve update represents a considerable increase on that which was defined in the Stage 1 PFS. The update has unearthed further aspects of the Havieron system and validates that Havieron is a world class deposit with significant growth potential. Through an independently verified analysis, the total Mineral Resource at Havieron has increased to 6.5M oz of gold equivalent, an increase of almost 50% in 10 months of drilling.

The exceptional 86% rate of conversion of Mineral Resources to Ore Reserves demonstrates the quality of the high grade South East Crescent Zone at Havieron.

The South East Crescent Zone Mineral Resource is now defined to around 1,000m vertical extent below the Permian and still open at depth. In addition, high grade intercepts are delineated below this level, which further supports the potential for future Mineral Resource and Ore Reserve growth.

In addition to the Mineral Resources within the Havieron Breccia complex, growth drilling has now defined an initial Mineral Resource within the separate Eastern Breccia complex. This is the first Mineral Resource in a mineralised system outside the Havieron Breccia system and remains open at depth and to the south. This Eastern Breccia Mineral Resource does not capture the recent high grade intercepts to its south, which is of similar grade to the South East Crescent Zone.

With an ongoing and substantial expansion drilling campaign continuing, there is every opportunity to deliver more growth to the Mineral Resource and Ore Reserve as we continue to better understand the extent of mineralisation across the broader Havieron zonation.

The investment proposition for Greatland remains compelling, with this further understanding of the quality and scale of Havieron supported by this new Mineral Resource update. With Havieron in a Tier One mining jurisdiction, under development with a major partner in Newcrest, located near existing infrastructure and a study indicating modest capex and low operating cost, this confluence of factors position Havieron as a tremendous and globally unique asset."

#### Company's updated Mineral Resource and Ore Reserve estimate

Mineral Resource and Ore Reserve estimates are expressions of judgement based on knowledge, experience and industry practice. They are also based on a number of material assumptions (such as future commodity prices and foreign exchange, cut off grades, future capital and operating costs and development timeline) which may prove to be incorrect. Estimates which were valid when originally made may alter significantly when new information or techniques becomes available. In addition, by their very nature, Mineral Resource and Ore Reserve estimates are imprecise and depend to some extent on interpretations, which may prove to be inaccurate. Unless and until actually mined and processed, no assurance can be given that any estimated tonnage, grades and recovery levels will be realised or that any Ore Reserves will be mined or processed economically.

This announcement and the updated Mineral Resource and updated Ore Reserve estimates for the Havieron Project contained in it have been prepared solely by Greatland based on relevant available information and has not been reviewed by Newcrest Mining Limited ("Newcrest"). A subsidiary of Newcrest is the manager of the Havieron Joint Venture and holds the majority participating interest in that joint venture (currently 60% with an entitlement (subject to the terms of the Joint Venture Agreement) to an additional 10% interest and an option to acquire a further 5% interest at fair market value). Whilst the information in this announcement pertaining to the estimation and reporting of Mineral Resources and Ore Reserves has been reviewed and approved by relevant Competent Persons<sup>4</sup> and the updated Mineral Resource and updated Ore Reserve estimates have been independently assessed by SRK Consulting (Australasia) Pty Ltd<sup>5</sup>, the Company considers that it is possible that: (i) in preparing any future resource and reserve estimates for the Havieron Project, Newcrest may adopt different interpretations, assumptions, parameters or plans, or make different judgements, to those used or made by Greatland in the updated Mineral Resource and Updated Ore Reserve estimates contained in this announcement and (ii) the Havieron Joint Venture may choose to carry out its operations (including the development of the Havieron Project) in a manner different to the assumptions used in the updated Mineral Resource and updated Ore Reserve estimates contained in this announcement.

#### **Forward Looking Statements**

This document includes forward looking statements and forward looking information within the meaning of securities laws of applicable jurisdictions. Forward looking statements can generally be identified by the use of words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "believe", "continue", "objectives", "targets", "outlook" and "guidance", or other similar words and may include, without limitation, statements regarding estimated reserves and resources, certain plans, strategies, aspirations and objectives of management, anticipated production, study or construction dates, expected costs, cash flow or production outputs and anticipated productive lives of projects and mines.

These forward looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance and achievements or industry results to differ materially from any future results, performance or achievements, or industry results, expressed or implied by these forward-looking statements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which Greatland operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on assumptions as to the financial, market, regulatory and other relevant environments that will exist and affect Greatland's business and operations in the future. Greatland does not give any assurance that the assumptions will prove to be correct. There may be other factors that could cause actual results or events not to be as anticipated, and many events are beyond the reasonable control of Greatland. Readers are cautioned not to place undue reliance on forward looking statements, particularly in the current economic climate with the significant volatility, uncertainty and disruption caused by the COVID-19 pandemic. Forward looking statements in this document speak only at the date of issue. Greatland does not undertake any obligation to update or revise any of the forward looking statements or to advise of any change in assumptions on which any such statement is based.

<sup>1</sup> The gold equivalent (AuEq) is based on assumed prices of US\$1,450/oz Au and US\$3.23/lb Cu for Ore Reserve and assumed prices of US\$1,600/oz Au and US\$3.50/lb Cu for Mineral Resource and metallurgical recoveries based on block metal grade, reporting approximately at 88% for Au and 84% for Cu which in both cases equates to a formula of approximately AuEq = Au (g/t) + 1.5 \* Cu (%). It is the company's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold.

<sup>2</sup> The Net Smelter Return ("NSR") is calculated using metals prices of US\$1,600/oz Au and US\$3.50/lb Cu, metallurgical recoveries based on block metal grade reporting approximately at 88% for Au and 84% for Cu, an USD:AUD exchange rate of 0.73, as well as treatment and refining costs, payables and royalties, similar to those in the Stage 1 PFS.

<sup>3</sup> The Mineral Resource Conversion rate is based on the conversion of contained metal within the Indicated Mineral Resource to contained metal within the Ore Reserves, this calculates to 86%.

<sup>4</sup> See Competent Persons Statement below for details.

<sup>5</sup> See Sections 3 and 4 of Appendix 1 below for details.

<sup>6</sup> Refer to Figure 8 and announcement "Havieron Exploration Update" dated the 28 January 2022.

#### **Enquiries:**

Greatland Gold PLC Shaun Day	+44 (0)20 3709 4900 info@greatlandgold.com www.greatlandgold.com
SPARK Advisory Partners Limited (Nominated Adviser) Andrew Emmott/James Keeshan	+44 (0)20 3368 3550
Berenberg (Joint Corporate Broker and Financial Adviser) Matthew Armitt/ Varun Talwar/ Detlir Elezi	+44 (0)20 3207 7800
<b>Canaccord Genuity (Joint Corporate Broker and Financial Adviser)</b> James Asensio/Patrick Dolaghan	+44 (0)20 7523 8000
Hannam & Partners (Joint Corporate Broker and Financial Adviser) Andrew Chubb/Matt Hasson/Jay Ashfield	+44 (0)20 7907 8500
<b>SI Capital Limited (Joint Broker)</b> Nick Emerson/Alan Gunn	+44 (0)14 8341 3500
Luther Pendragon (Media and Investor Relations) Harry Chathli/Alexis Gore	+44 (0)20 7618 9100

#### Further Information on the Updated Mineral Resource and Updated Ore Reserve at Havieron

#### **Project Details**

The Project containing the Havieron Au-Cu deposit is centred on a deep magnetic anomaly 45km east of Telfer (Figure 1) in the Paterson Province on the traditional lands of the Martu people. The Project is held in a joint venture between Greatland and Newcrest Mining Limited ("Newcrest"), where Newcrest currently holds a 60% joint venture interest and is entitled (subject to the terms of the Joint Venture Agreement) to an additional 10% interest, giving an aggregate interest of 70% (Greatland 30%).

Newcrest may also acquire an additional 5% joint venture interest at fair market value (under the principles of the Joint Venture Agreement) and, if exercised, Newcrest will be entitled to an overall joint venture interest of 75% (Greatland 25%). As detailed in the announcement of 21 December 2021, Newcrest has issued a notice to Greatland informing it that Newcrest would like to begin the process under the joint venture agreement to seek to agree or, failing agreement, determine the option exercise price. The Joint Venture commenced drilling during mid-2019 and has completed 272 drill holes for 226,492m (at 28 January 2022), with up to eight drill rigs in operation on the Project.

The Martu people and the Western Desert Land Aboriginal Corporation (WDLAC) are key project stakeholders. The Martu hold exclusive possession native title rights and interests over more than 130,000 km<sup>2</sup> of land, including to all points around the Telfer mine and Havieron Project. The Indigenous Land Use Agreement (ILUA) with WDLAC, centred on the Telfer mine, extends to the Havieron project.

The Project is located within granted Mining Lease M45/1287 and has received the necessary regulatory approvals for the construction of a box cut, exploration decline and associated surface infrastructure, with these works formally commencing in January 2021. The Stage 1 PFS released 12 October 2021 has outlined the next stage of the Project which comprises a Feasibility Study into the underground and surface development to establish the initial mining area at Havieron and ore processing at Telfer.



Figure 1. Location of the Havieron Project, approximately 45km east of Telfer, Western Australia.

The Stage 1 PFS assessed mining production methods including Sub Level Open Stoping ("SLOS") with mining rates of 2 Mtpa to 3 Mtpa and caving options up to 6 Mtpa. Surface infrastructure studies were focused on the transportation of ore to the Telfer processing plant with a range of options considered in early-stage evaluations including conveyor, rail, pipeline and truck haulage, with the latter adopted for the Ore Reserve estimate used in the Stage 1 PFS. Processing studies evaluated a modified Telfer process plant to accommodate the Havieron ore.

The Stage 1 PFS demonstrated the potential to expand the Project and increase the mining rate to 3 Mtpa or more based on the upgrading of the October 2021 Inferred Mineral Resources and additional potential Mineral Resource growth from immediately below the South East Crescent Zone.

This release documents an update prepared solely by Greatland to the Resources and Reserves documented in the Stage 1 PFS and has not been reviewed by Newcrest. It is the preference of Greatland to update the Project's Mineral Resource and Ore Reserve estimates in line with Newcrest; however, in the context of Greatland's current investigation of potential financing options, and other Project decisions it may be required to make, it was considered necessary for the Company to undertake its own analysis (the last Havieron Mineral Resource and Ore Reserve update being released as part of the Stage 1 PFS with a 5 February 2021 cut-off for drilling information).

## **Updated Mineral Resource Estimate**

The updated Mineral Resource estimate for the Havieron Deposit prepared by Greatland (Table One) ("Updated Mineral Resource") is based on drilling completed to 2 December 2021, comprising 311 holes for 209,911m, inclusive of 87 holes for 59,270m which are additional to the drilling data used in the Stage 1 PFS Mineral Resource and Ore Reserve estimates released on 12 October 2021.

Domain	Classification	Tonnage	Grade		Metal Content		AuEq <sup>1</sup> Metal
		Mt	Au (g/t)	Cu (%)	Au (M oz)	Cu (kt)	AuEq (M oz)
South East Crescent	Indicated	26	3.3	0.52	2.8	136	3.4
	Inferred	7	3.2	0.33	0.7	22	0.8
Northern Breccia	Indicated	9	1.1	0.11	0.3	10	0.4
	Inferred	36	1.0	0.1	1.2	37	1.3
Eastern Breccia	Indicated	0.0	0.0	0.0	0.0	0.0	0.0
	Inferred	14	1.2	0.09	0.5	13	0.6
Total	Indicated	35	2.8	0.42	3.1	146	3.8
	Inferred	57	1.3	0.13	2.4	72	2.7
Grand Total	Indicated + Inferred	92	1.9	0.24	5.5	218	6.5

Table One: Updated Mineral Resource estimate tabulation for the Havieron Deposit (100%)#:

<sup>#</sup> Results are reported to one (gold) and two (copper) significant figures to reflect appropriate precision in the estimate, and this may cause some apparent discrepancies in totals. Results represent 100% of the Mineral Resource for Havieron. Mineral Resources in the South East Crescent Zone are reported within a A\$80 NSR/t shell while Mineral Resources in the Breccias are reported within a A\$50 NSR/t shell.

The Updated Mineral Resource estimates are reported as Indicated and Inferred Mineral Resources in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). The reported Updated Mineral Resources are inclusive of Ore Reserves. Refer to details in Appendix 1 (JORC Table 1 – Sections 1 to 3) for more information relating to data collection and resource estimation.

The Updated Mineral Resource represents a significant increase on the Mineral Resources defined in the Stage 1 PFS (which was prepared at a 'point in time' using a 5 February 2021 cut-off for drilling information) including:

- A 75% increase in total (Indicated plus Inferred) tonnes;
- A 53% increase in total gold content; and
- A 63% increase in gold ounces in the Indicated category.

Material differences between the Updated Mineral Resource and the previously announced Stage 1 PFS Mineral Resource are as follows:

- A further 38,088 metres of infill drilling completed in the approximately 10 months since 5 February 2021 to 2 December 2021 within the South East Crescent Zone. This drilling validated both geological and grade continuity of the Stage 1 PFS South East Crescent Zone Mineral Resource, converting some Inferred Resource to Indicated Resource;
- Growth drilling (21,182 metres completed since 5 February 2021 to 2 December 2021) which returned further high-grade results with the South East Crescent Zone now having a vertical extent of over 1,000 metres and extending to over 200 metres below the earlier Stage 1 PFS Mineral Resource;
- The Updated Mineral Resource has been calculated using an A\$80 NSR/t value cut-off for the Crescent material, compared with a A\$100 NSR/t cut-off used in the Stage 1 PFS estimation. Due to the high NSR value of the majority of the South East Crescent Zone material this change is not considered to have resulted in a material change in the resources;
- While different commodity prices have been used (US\$1,600/oz Au and US\$3.50/lb Cu and a USD:AUD exchange rate of 0.73 for the Updated Resource estimate compared with US\$1,400/oz Au and US\$3.40/lb Cu and a USD:AUD exchange rate of 0.75 used in the Stage 1 PFS), due to the high NSR value of most of the South East Crescent Zone material this change is not considered to resulted in a material change in the South East Crescent Zone Resources. The increase in the Breccia Mineral Resources within the Havieron Breccia are a result of additional drilling and some effect of the commodity price variation between the models; and,
- The Eastern Breccia Resource, which forms part of the Updated Mineral Resource was not part of the previous Stage 1 PFS Mineral Resource.



The Updated Mineral Resource and Stage 1 PFS Mineral Resource are compared in Figure 2.

**Figure 2**. Updated Mineral Resource (right hand figure) compared to the Stage 1 PFS Mineral Resource (left hand figure). The background in both figures is the currently modelled full extent of the Havieron mineralised system in grey, with the updated geological model of the South East Crescent Zone (Pink body) drawn in the right hand figure. Significant Intersections displayed in the figures are reflective of the drilling results at cut-off dates for each respective Mineral Resources.

Based on drilling to date the Havieron deposit comprises an ovoid shaped body of variable brecciation, alteration and sulphide mineralisation with dimensions of approximately 650m x 350m trending in a north-west orientation, extending to over 1,100m in depth below 420m of Permian cover (Figure 3).

Within this ovoid body a sulphide rich South East Crescent Zone has been defined, it is 5-40m wide, extending over 700m in length (when unfolded in plan just below the basement contact) and defined over 1,000m vertically, tapering to ~600m in length (unfolded) at this depth and still open at depth. The South East Crescent Zone has continued to be the focus of drilling and has been progressively infilled to a nominal drill spacing of 50m for the Indicated Mineral Resources, and 75m spacing for the Inferred Mineral Resources.

Gold and copper mineralisation at Havieron consists of breccia, vein and massive sulphide replacement gold and copper mineralisation typical of intrusion-related styles of mineralisation. Mineralisation is hosted by metasedimentary rocks (meta-sandstones, meta-siltstones and meta-carbonate) and intrusive rocks of an undetermined age. The main mineral assemblage contains well developed pyrrhotite-chalcopyrite and lesser pyrite sulphide mineral assemblages as breccia and vein infill, and massive sulphide lenses.

The Eastern Breccia complex comprises a second, separate body of mineralisation located on the northeast margin of the ovoid body developing around the 4000mRL (850m below the Permian unconformity), but open at depth and along strike. The Eastern Breccia comprises broad zones of actinolite cemented breccia hosted in metasediment rocks, with more abundant vein quartz and less calcite breccia than the main Havieron deposit breccias. The Eastern Breccia Mineral Resource is drilled to a nominal 75m x 75m spacing. Infill and extension drilling of the Eastern Breccia is ongoing.

The Indicated Mineral Resource estimate includes material from the South East Crescent Zone and adjacent Breccias only. The Inferred Mineral Resource estimate is comprised of some South East Crescent Zone, the adjacent Breccia Zones, a portion of the Northern Breccia to an RL of 3950m (~850m below the Permian unconformity) and the Eastern Breccia where drill data provides sufficient support to define an appropriate level of geological control and statistical confidence.

Ordinary Kriging of 5m composites of gold and copper was undertaken into 20m x 20m x 20m blocks and re-blocked into 4m x 4m x 4m blocks where required. The Mineral Resource model was domained utilising the geological units defining the South East Crescent Zone, the Cemented Breccia and Crackle Breccia. Hard boundaries were used between the Crescent Zone and the Breccia Zones and a transitional boundary of around 20m was used between the Breccia Zones. Kriging Neighbourhood Analysis was used to define the search neighbourhood for gold. Gold, copper and bismuth were estimated independently of each other. Composite copper, gold and bismuth grades were capped prior to estimation. Within the Havieron Breccia complex the resource estimation is based entirely on interpolation while the Eastern Breccia complex, which is considered a separate system, is based on 70% interpolated and 30% extrapolated blocks (which is defined as the nearest informing composite being more than 30m away and estimated by data from fewer than 4 drillholes) representing the early stage of resource definition in this area. The Mineral Resource model was validated via visual, statistical, and geostatistical methods.

The Indicated and Inferred Mineral Resource estimate has been constrained using appropriate drill hole data spacing parameters and geological control. Resource classification is based on average weighted distance and slope of regression statistics for estimated gold grades. The Indicated Mineral Resource classification within the South East Crescent Zone is reported based on the evaluation of nominal thresholds of the average weighted distance (45m) and slope of regression (>0.6) and with blocks lying within an A\$80 NSR/t shell. The Inferred Mineral Resource classification within the South East Crescent Zone is reported based on the average weighted distance (75m) and slope of regression (>0.3) and with blocks lying within an A\$80 NSR/t shell.

The Indicated Mineral Resource classification within the Breccias is reported on the evaluation of nominal thresholds of the average weighted distance (30m) and slope of regression (>0.6) within an A\$50 NSR/t value shell with no internal selectivity, which assumes bulk mining and therefore includes internal waste. The Inferred Mineral Resource classification within the Breccias is reported on the evaluation of nominal thresholds of the average weighted distance (75m) and slope of regression (>0.3) within an A\$50 NSR/t value shell with no internal selectivity, which assumes bulk mining and therefore includes internal waste.

The NSR uses metals prices of US\$1,600/oz Au and US\$3.50/lb Cu, metallurgical recoveries based on block metal grade, reporting approximately at 88% for Au and 84% for Cu, an USD:AUD exchange rate of 0.73, as well as treatment and refining costs, payables and royalties, similar to those used in the Stage 1 PFS.

Reasonable prospects for eventual economic extraction have been assessed through ongoing mining and processing studies which suggest that selective underground mining would be appropriate for exploitation of the South East Crescent Zone, while less selective underground mining would be appropriate for the exploitation of the mineralised Breccia Zones. There are no known environmental, social, governmental / regulatory or legal barriers to declaring this Mineral Resource.

### Updated Ore Reserve Estimate

The updated Havieron Ore Reserve estimate prepared by Greatland ("Updated Ore Reserve") is reported as a Probable Ore Reserve in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). For more details regarding the Ore Reserve estimation process, refer to Appendix 1 (JORC Table 1 – Sections 4). The Updated Ore Reserve contains 25 Mt at 3.0 g/t Au and 0.44% Cu for 2.4M oz of gold and 109 kt of copper (Table Two).

	Tonnage	Grade		Metal C	AuEq <sup>1</sup> Metal	
	Mt	Au (g/t)	Cu (%)	Au (M oz)	Cu (kt)	AuEq (M oz)
Proved	-	-	-	-	-	-
Probable	25	3.0	0.44	2.4	109	2.9
Total Ore Reserve	25	3.0	0.44	2.4	109	2.9

Table Two: Updated Ore Reserve estimate tabulation for the Havieron Deposit (100%)^:

<sup>^</sup> Data is reported to one (gold) or two (copper) significant figures to reflect appropriate precision in the estimate and this may cause some apparent discrepancies in totals. Data represents 100% of the Ore Reserve for Havieron. Ore Reserves are reported above a cut-off of A\$95 NSR/t and reported within mining shapes based on a sub-level open stoping mining method. All reported metal was derived from the South East Crescent Zone only.

This is a significant increase to the Ore Reserves contained in the Stage 1 PFS (prepared at a 'point in time' using a 5 February 2021 cut-off for drilling information), including:

- A 50% increase in total gold content;
- A 84% increase in Reserve tonnes; and,
- A 86% conversion of Au Metal within the South East Crescent Zone Indicated Resource to Probable Reserve.

Material differences between the Updated Ore Reserve and the previously announced Stage 1 PFS Ore Reserve are as follows:

- The increased drilling completed in the period 5 February 2021 to 2 December 2021, both infilling and extending the Indicated Mineral Resources defined in the South East Crescent Zone and adjacent Breccias;
- The Updated Ore Reserve has been calculated using a break even cut off value of approximately A\$95/t milled, and a marginal cut off value of approximately A\$80/t milled, compared to a A\$130 NSR/t cut-off used in the Stage 1 PFS Ore Reserve. The reduced cut-off was calculated from first principles and the reduction is primarily as a result of increased throughput from 2 Mtpa to 3 Mtpa, the latter being in line with the Stage 1 PFS Investment Case carried forward into the Feasibility Study as part of the Forward Works Program; and
- Metal price changes from U\$1,300/oz to U\$1,450/oz for gold, U\$3.0/lb to U\$3.23/lb for copper and exchange rate from 0.75 to 0.73 USD per AUD. These changes had a non-material impact on the overall Ore Reserve as the majority of the South East Crescent Zone material are well above cut-off value at both price points. Lower grade material is more sensitive to price assumptions but makes up a non-material portion of the Ore Reserve.



The Updated Ore Reserve and older Stage 1 PFS Ore Reserve are compared in Figure 3.

**Figure 3**. Updated Ore Reserve (right hand figure) compared to the Stage 1 PFS Ore Reserve (left hand figure). Ore Reserves are shown as red shapes over the relevant Mineral Resource block model in brown.

The Updated Ore Reserve is based on a SLOS mining method with paste fill and truck ore haulage at a 3 Mtpa mining rate. Metallurgical test-work has been executed on samples taken from the Havieron deposit during the Stage 1 PFS and in preceding studies. The test-work undertaken is of an adequate level to ensure an appropriate representation of metallurgical characterisation and the derivation of corresponding metallurgical recovery factors.

The Havieron site does not currently have infrastructure to support mining operations. Major infrastructure requirements are included in the Stage 1 PFS capital cost estimates, which are based on multiple market prices across all technical disciplines. Provision has been made for capital expenditure requirements for new equipment, infrastructure and replacement of infrastructure and equipment during the life of the mine is based on the Stage 1 PFS. A contingency has been factored into the capital cost estimate consistent with the level of accuracy of the Stage 1 PFS.

The Updated Ore Reserve is based on the Stage 1 PFS cost estimates. The Stage 1 PFS cost estimates have been built up from a combination of existing Telfer site costs scaled for the Havieron material throughput rate, first principles cost modelling and quotations where practicable.

The Probable Ore Reserve is based on Indicated Mineral Resources and diluting material only. Metal for Inferred Mineral Resource material was not considered for the Updated Ore Reserve and did not contribute to the mine design or economic evaluation. No Measured Mineral Resources are stated for this deposit and therefore no Proved Ore Reserves were estimated.

The Updated Ore Reserve has been prepared in line with the following bases used in the Stage 1 PFS:

- decline, accesses to the levels, ore passes, ventilation raises and other underground excavations;
- Sub-level open stoping (SLOS) stopes with paste fill;
- paste fill plant and underground distribution system;
- ventilation shafts, fans, regulators and refrigeration equipment;
- dewatering, electrical and other service equipment; and
- truck haulage of ore to surface via the access decline.

The following Modifying Factors have been applied to all production shapes to accurately represent the expected mined tonnes and grades:

- dilution factors for unplanned overbreak in primary, secondary and tertiary stopes (average 9%) consisting of waste (average 6%) and stope paste (average 3%);
- dilution included at zero grade; and
- mining recovery factor of 97.5%.

The Updated Ore Reserve includes approximately 2.4 Mt of Inferred Mineral Resource as dilution. The metal contained in this material was not considered and did not contribute to the economic assessment or metal reported in the Updated Ore Reserve.

Havieron ore is anticipated to be processed on a campaign basis through the existing Telfer Train 2 Treatment Plant circuit (consistent with the Stage 1 PFS) and at a throughput of approximately 3 Mtpa. Metal recovery is expected to be through conventional flotation to produce a copper/gold concentrate and gold doré through a newly installed flotation tails carbon-in-leach (CIL) circuit. The technology associated with the ore processing is conventional and the flowsheet is similar to that utilised by other operations.

Metallurgical recovery assumptions are based on detailed analysis and laboratory flotation and leach test work completed on 38 variability samples during the Havieron Concept Study (2020) and Stage 1 PFS (2021) with good spatial coverage of the South East Crescent Zone. Of the 38 samples, 8 samples are located in the Breccia Zones and 30 samples are located in the South East Crescent Zone, of which 21 samples are located within the Stage 1 PFS South East Crescent Zone Indicated Mineral Resources. Based on these samples metallurgical recoveries for gold are anticipated to average approximately 88% and recoveries of copper are expected to average approximately 84% throughout the life of the project.

Bismuth is the key deleterious element for the gold/copper concentrate product with potential smelter penalties incurred on the basis of bismuth content above a threshold level. The impact of bismuth in concentrate is anticipated to be managed by mine sequencing and concentrate blending.

The Updated Ore Reserve employs a value-based cut-off determined from the NSR value equal to the site operating cost included within the Stage 1 PFS. The NSR calculation takes into account revenue factors, metallurgical recovery assumptions, transport costs, refining charges, and royalty charges.

The NSR uses metals prices of US\$1,450/oz Au and US\$3.23/lb Cu, metallurgical recoveries based on block metal grade, reporting approximately at 88% for Au and 84% for Cu, an USD:AUD exchange rate of 0.73, as well as treatment and refining costs, payables and royalties, similar to those used in the Stage 1 PFS.

Detailed environmental studies have been undertaken in the Havieron project area and include flora and vegetation, fauna, subterranean fauna, waste rock characterisation, soil and landform study, surface hydrology assessment, a basic hydrogeological assessment and a greenhouse gas emissions study. The Havieron project has been designed to recognise biodiversity values and, through consultation with Martu and their native title corporation (WDLAC), minimise the impacts to sites and landscapes of cultural significance. The footprint for the Project has been minimised through the use of existing tracks and areas of disturbance, as well as utilising the existing Telfer Gold Mine infrastructure to process the ore and dispose of the tailings material.

Waste rock characterisation has been undertaken and shows that it contains material which has potentially acid forming (PAF) and metalliferous drainage, in addition to dispersive or saline material. The portion of PAF material is less than 1% of total waste volumes. Waste dumps have been designed for the life of mine that have incorporated cells to safely encapsulate the PAF material. The waste dump is to be located near the boxcut to minimise haulage distance and considering the local surface terrain and environmental and cultural aspects.

The site operating costs include mining cost, processing cost, relevant site general and administration costs and relevant sustaining capital costs. These costs equate to a break even cut off value of approximately A\$95/t milled, and a marginal cut off value of approximately A\$80/t milled.

Estimation of the Updated Ore Reserve involved standard steps of mine optimisation, mine design, production scheduling and financial modelling. Factors and assumptions have been based on benchmarked performance from similar SLOS operations. The Updated Ore Reserve has been evaluated through a financial model. All operating and capital costs as well as Ore Reserve revenue factors stated in this document were included in the financial model. A discount factor of 4.5% real was applied. This process demonstrated that the Updated Ore Reserve has a positive NPV. Sensitivities were conducted on the key input parameters including commodity prices, capital and operating costs, ore grade, mined tonnes, exchange rate and metallurgical recoveries confirming the estimate to be robust.

Newcrest stated on 17 February 2022 as part of their Half Year Results Update that the decline experienced difficulty in poor ground conditions during the early stages. The team is working to understand the impact on the development schedule and this may also impact on vertical development. First production ore is expected in FY24 (rather than H1 FY24) and more updates will be provided as information comes to hand.

#### Approvals

A mining lease has been granted over the orebody and a miscellaneous licence granted along the existing service corridor.

A staged approach for approvals is being undertaken with Stage 1 currently approved which has allowed the development of the box cut, decline and service corridor. These approvals also allow for a waste rock dump, evaporation ponds and supporting infrastructure such as offices and workshops.

Stage 2 approvals are expected to consist of a SLOS underground mine, permanent infrastructure corridor, associated infrastructure and changes to Telfer approvals to accept Havieron tailings in existing tailings storage facilities. The approvals for Stage 2 consist of both Commonwealth and State level approvals with engagement well advanced with all regulatory bodies. The approval timelines outlined in the Stage 1 PFS are considered achievable.

For Stage 2 approvals an application is expected to be made for an additional miscellaneous licence to secure access for an infrastructure corridor to connect Telfer and Havieron (including haul road, powerlines and water pipes). This is not considered a risk to the timelines or project.

#### Indicative Production Profile (100% terms)

The Updated Ore Reserve is based on the updated Indicated Mineral Resource estimate and approximately 3 Mtpa underground SLOS operation with an expected mine life of 10 years. Ore is proposed to be transported in trucks along a new 55km long haul road to the modified processing plant at the Telfer mine and tailings deposited at Telfer's existing tailings storage facility (TSF).

Multiple stope priority runs were conducted to determine the optimal sequence which maximised the number of years at peak production while reducing and compressing the production tail as much as practical. The production rate of 3 Mtpa for the Havieron SLOS was determined by maximising the steady state production of the sequence. The Indicative profiles is shown in Figure 4 and collated in Table Three.



Figure 4. Production Profile for the Updated Ore Reserve\*

Year	Plant Feed (Mt)	Average Gold Grade (g/t Au contained)	Average Copper Grade (% Cu contained)
FY24	0.70	3.26	0.69
FY25	2.16	3.03	0.67
FY26	2.69	3.10	0.47
FY27	2.83	2.78	0.46
FY28	2.90	2.52	0.39
FY29	2.74	2.78	0.37
FY30	2.74	3.21	0.37
FY31	3.03	3.28	0.42
FY32	2.92	3.17	0.35
FY33	1.76	2.82	0.37
FY34	0.47	3.25	0.49
Total	24.92	2.98	0.44

Table Three: Indicative Updated Ore Reserve Production Profile\*:

\*Data is rounded to two decimal places, which may cause some apparent discrepancies in totals. Data represents 100% of the Ore Reserve for Havieron.

#### Mine Development and Sequence

Sub-Level Open Stoping (SLOS) is a large-scale open stoping method that is conducted over multiple levels at once. Once the stope has been mined out it is backfilled with paste to maintain the overall stability of the opening and enable mining of adjacent stopes. This method is typically applied to strong orebodies that require minimal support and are surrounded by competent country rock, such as the Havieron deposit. Stopes are mined in a checkerboard fashion with primary stopes mined first, followed by the intermediate secondary stopes. The mining sequence is globally top down, divided into a number of different vertical fronts, separated by temporary horizontal sill levels (Figure 5) which are recovered after the levels immediately above and below have been mined and filled.

A sub-level spacing of 50m with temporary sill levels located 20m below a mining front were selected (Figure 5). Some sub-level spacings are increased by up to 10m to accommodate the inclusion of ore, minimising additional level development. The design consists of ten semi-independent mining sequences, based on both horizontal and vertical mining fronts.



Figure 5. Havieron Reserve Case SLOS horizontal and vertical mining fronts

### Infrastructure

The Infrastructure requirements are based on the Stage 1 PFS and contemplate the transport of ore from the mine to Telfer via road trains on an all-weather unsealed road. The road has been designed to withstand a 1-in-a-100-year flood event and maintain access to Havieron.

Power is expected to be supplied to Havieron from Telfer's existing gas power station via a 66 kilovolt (kV) overhead line running parallel to the nominated haul road corridor. Further opportunities to replace these with non-fossil fuel power generation are expected to be evaluated as part of the Feasibility Study during the Forward Works Program.

Telfer currently operates two processing trains with a total capacity of ~22 Mtpa. The Havieron ore is expected to be processed through a modified Telfer Train 2 Processing Plant which is expected to operate a single train at 6Mtpa rate on a campaign basis. The Plant modifications are expected to include magnetic separation within the flotation circuit to reduce the amount of pyrrhotite in the final Cu Concentrate and a carbon-in-leach (CIL) circuit on the flotation tail and cyanide detoxification circuit. The expected cost of the plant modifications is included in the project capital estimate. A single train operation provides optionality if higher mining rates are achieved from Havieron or through the extension of Telfer's current mine life (i.e. Telfer ore can be run through the other train with the existing flowsheet). Tailings from ore processed is anticipated to be deposited at the existing Telfer TSF.

## Independent Review of the Mineral Resource and Ore Reserve Update

SRK Consulting (Australasia) Pty Ltd has completed an independent technical assessment of the Updated Mineral Resource and Updated Ore Reserve estimates completed by Greatland for the Havieron deposit. As part of that assessment SRK reviewed the Resource and Reserve modelling methods and parameters and found them to be reasonable and to take into consideration all of the current exploration data and levels of technical knowledge of the Havieron deposit.

SRK considers that the Mineral Resources and Ore Reserves have been reported in accordance with guidelines and principles outlined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 edition).

# Potential Growth with Ongoing Exploration

The Havieron mineral system as outlined by drill testing to date (Figure 6), is a 650m by 350m ovate shaped north west trending alteration zone in which mineralisation is hosted by variable brecciation and sulphide accumulations centred on a complex of nested diorite intrusions. Higher grade zones are associated with increases in sulphide accumulations including pyrrhotite, chalcopyrite and pyrite with quartz. The South East Crescent Zone is a geological domain characterised by massive sulphide accumulations. Mineralisation has been observed to over 1,000m in vertical extent below the 420m of post mineralisation cover sequence (Figure 7).

The Havieron project has significant additional growth potential including:

- Upgrading of existing Inferred Mineral Resources in both the South East Crescent Zone and adjacent Breccias;
- Extension of the South East Crescent Zone below the Updated Mineral Resource, where increasing grade and thickness of mineralisation has been observed in recent drilling;
- Expansion and infill drilling in the Eastern Breccia; and
- Potential to discover addition mineralisation centres outside of the immediate ovoid pipe



**Figure 6.** Plan view of the Havieron mineral system showing outline of the South East Crescent Zone with potential depth extensions, adjacent Breccias and the Eastern Breccia, and projections of the Updated Mineral Resource. The drill trace are all holes below the 4400m RL showing intersections >1.0 g/t au.

At the South East Crescent Zone, growth drilling has reported significant intersections 200m below the Updated Mineral Resource. Drilling continues to assess the depth extents of South East Crescent Zone which now has a vertical extent of over 1,000m.

The deepest drill hole within the resource is HAD133W1, approximately 850m below the unconformity, with the system open beneath this hole.

- HAD133W1
  - 133m @ 7.0g/t Au & 0.05% Cu from 1,446m
  - including 55.9m @ 9.7g/t Au & 0.04% Cu from 1,449.5m
  - including 20m @ 11g/t Au & 0.04% Cu from 1,519m

The true width of this intersection is approximately 60m.

Results external to or below the Mineral Resource include HAD86W3 and HAD029:

- HAD086W3
  - 44.7m @ 7.1g/t Au & 0.17% Cu from 1,412m
  - including 20.2m @ 15g/t Au & 0.29% Cu from 1,421m
  - 48m @ 2.2g/t Au & 0.15% Cu from 1,525m
  - including 26.9m @ 3.7g/t Au & 0.26% Cu from 1,538.1m
- HAD029
  - 134.2m @ 0.81g/t Au & 0.23% Cu from 1,460m
  - including 23m @ 2.7g/t Au & 0.14% Cu from 1,473m

As announced by Greatland on 28 January 2022, HAD086W3 (Figure 7) returned two Crescent Sulphide Zone intersections, with assays for the lower portion of the drill hole reporting 48m @ 2.2g/t Au & 0.15% Cu from 1,525m, including 26.9m @ 3.7g/t Au & 0.26% Cu from 1,538.1m. These results along with high grade hole HAD133W1, approximately 100m to the southeast continue to support extensions of the South East Crescent Zone at depth. Drilling continues to assess the depth extents of the South East Crescent Zone which now has a vertical extent of over 1000m.



**Figure 7**. Potential depth extensions of the South East Crescent Zone and adjacent breccias at depth below the Updated Mineral Resource and Updated Ore Reserve.

At the Eastern Breccia, drilling targeting strike extensions from previously reported drill holes HAD083 and HAD084 indicate the potential for the Eastern Breccia to represent a separate North West trending mineralised corridor, with an alteration footprint of approximately 600m in strike, adjacent to the ovoid Havieron breccia system and associated South East Crescent Zone.

Recently reported sulphide rich, Crescent Zone like higher grade zones appear to be developed internal to this Eastern Breccia Complex. The most significant intercept to date was returned from HAD104 (Figures 7 and 8), reporting 62.5m @ 5.9g/t Au & 0.30% Cu from 1,546.5m, including 49.4m @ 7.1g/t Au & 0.38% Cu from 1,554.6m. The intercept is related to massive sulphide and quartz infill, which is characteristic of the South East Crescent Zone. The intercept is ~200m south east of the previously reported Eastern Breccia drillholes. HAD104 has highlighted the potential for this separate NW trending Eastern Breccia corridor to host Crescent Sulphide Zone style high grade mineralisation. Drilling is now focussed on defining the extents of this higher grade mineralisation seen in HAD104 which remains open in all directions.

Results For HAD104 include:

- HAD104
  - 62.5m @ 5.9g/t Au & 0.30% Cu from 1,546.5m
  - including 49.4m @ 7.1g/t Au & 0.38% Cu from 1,554.6m



**Figure 8.** Cross section through the Havieron system showing HAD104 with significant intersections hosted in the Eastern Breccia. The Figure is based on data presented in Geatland's RNS Announcement "Havieron Exploration and Development Update", dated 28 January 2022

## **Competent Persons Statements:**

Information in this announcement that relates to exploration or development results has been extracted from the following announcements: "Havieron Exploration and Development Update", dated 28 January 2022 (Greatland) "Quarterly Exploration Report", dated 28 January 2022 (Newcrest) "Havieron Exploration and Development Update", dated 9 December 2021 (Greatland) "Exploration Update", dated 9 December 2021 (Newcrest) "Havieron Exploration and Development Update", dated 28 October 2021 (Greatland) "Quarterly Exploration Report", dated 28 October 2021 (Newcrest) "Havieron Maiden Pre Feasibility Study", dated 12 October 2021 (Greatland) "Havieron PFS Stage 1 delivers solid returns and base for future growth" dated 12 October 2021 (Newcrest) "Havieron Development and Exploration Update" dated 9 September 2021 (Greatland) "Exploration Update", dated 9 September 2021 (Newcrest) "Havieron Development and Exploration Update" dated 22 July 2021 (Greatland) "Quarterly Exploration Report", dated 22 July 2021 (Newcrest) "Further Excellent Growth Drilling Results at Havieron", dated 10 June 2021 (Greatland) "Exploration Update", dated 10 June 2021 (Newcrest) "Excellent Growth Drilling Results at Havieron", dated 29 April 2021 (Greatland) "Quarterly Exploration Report", dated 29 April 2021 (Newcrest) "Further Outstanding Infill Drilling Results at Havieron", dated 11 March 2021 (Greatland) "Exploration Update", dated 11 March 2021 (Newcrest) "Newcrest Reports Further Drilling Results at Havieron", dated 28 January 2021 (Greatland) "Quarterly Exploration Report", dated 28 January 2021 (Newcrest) "Newcrest Reports Further Drilling Results at Havieron", dated 10 December 2020 (Greatland) "Exploration Update", dated 10 December 2020 (Newcrest) "Initial Inferred Mineral Resource Estimate for Havieron", dated 10 December 2020 (Greatland) "Initial Inferred Mineral Resource Estimate for Havieron", dated 10 December 2020 (Newcrest) "Drilling Results at Havieron Highlight Potential New Eastern Breccia Target", dated 29 October 2020 (Greatland) "Quarterly Exploration Report", dated 29 October 2020 (Newcrest) "Latest Drilling Results at Havieron Highlight Potential Bulk Tonnage Target", dated 10 September 2020 (Greatland) "Exploration Update", dated 10 September 2020 (Newcrest) "Newcrest Identifies New Zone of Breccia Mineralisation at Havieron", dated 23 July 2020 (Greatland) "Quarterly Exploration Report", dated 23 July 2020 (Newcrest) "Further Outstanding Drill Results from Havieron", dated 11 June 2020 (Greatland) "Exploration Update", dated 11 June 2020 (Newcrest) "Newcrest Reports Further Outstanding Drill Results at Havieron", dated 30 April 2020 (Greatland) "Quarterly Exploration Report", dated 30 April 2020 (Newcrest) "Newcrest Reports Further Outstanding Drill Results at Havieron", dated 11 March 2020 (Greatland) "Exploration and Guidance Update", dated 11 March 2020 (Newcrest) "Further Outstanding Drill Results at Havieron", dated 30 January 2020 (Greatland) "Quarterly Exploration Report", dated 30 January 2020 (Newcrest) "New Outstanding Drill Results at Havieron Extend the Strike Length of High-Grade Mineralisation", dated 2 December 2019 (Greatland) "Exploration Update – Havieron", dated 2 December 2019 (Newcrest) "Further High-Grade Drilling Results from Newcrest's Campaign at Havieron", dated 24 October 2019 (Greatland) "Quarterly Exploration Report – September 2019", dated 24 October 2019 (Newcrest) "Update on Newcrest Drilling Results at Havieron", dated 10 September 2019 (Greatland) "Exploration Update – Havieron", dated 10 September 2019 (Newcrest) "First Results from Newcrest's Drilling Campaign at Havieron", dated 25 July 2019 (Greatland) "Newcrest Quarterly Exploration Report – June 2019", dated 25 July 2019 (Newcrest)

Information in this announcement pertaining to Reporting of Exploration Results, including Sampling Techniques and Data, has been reviewed and approved by Mr John McIntyre, a Member of the Australian Institute of Geoscientists (MAIG), who has more than 30 years relevant industry experience. Mr McIntyre is an employee of the Company and has a shareholding in Greatland Gold plc. Mr McIntyre has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) and under the AIM Rules – Note for Mining and Oil & Gas Companies, which outline standards of disclosure for mineral projects. Mr McIntyre consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears. Mr McIntyre confirms that the Company is not aware of any new information or data that materially affects the information included in the relevant market announcements, and that the form and context in which the information has been presented has not been materially modified.

Information in this announcement pertaining to Estimation and Reporting of Mineral Resources, has been reviewed and approved by Mr Stuart Masters, a Member of the Australian Institute of Geoscientists (MAIG) and a Fellow of The Australasian Institute of Mining and Metallurgy (FAusIMM), who has more than 35 years relevant industry experience. Mr Masters is the Principal Consultant and Director of CS-2 Pty Ltd, and has no financial interest in Greatland Gold plc or its related entities. Mr Masters has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) and under the AIM Rules – Note for Mining and Oil & Gas Companies, which outline standards of disclosure for mineral projects. Mr Masters consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears. Mr Masters confirms that the Company is not aware of any new information or data that materially affects the information included in the relevant market announcements, and that the form and context in which the information has been presented has not been materially modified.

Information in this announcement pertaining to Estimation and Reporting of Ore Reserves, has been reviewed and approved by Mr Otto Richter, a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM), who has more than 20 years relevant industry experience. Mr Richter is an employee of the Company and has no financial interest in Greatland Gold plc or its related entities. Mr Richter has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) and under the AIM Rules – Note for Mining and Oil & Gas Companies, which outline standards of disclosure for mineral projects. Mr Richter consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears. Mr Richter confirms that the Company is not aware of any new information or data that materially affects the information included in the relevant market announcements, and that the form and context in which the information has been presented has not been materially modified.

#### **Notes for Editors:**

Greatland Gold plc (AIM:GGP) is a leading mining development and exploration company with a focus on precious and base metals. The Company's flagship asset is the world-class Havieron gold-copper deposit in the Paterson region of Western Australia, discovered by Greatland and presently under development in Joint Venture with Newcrest Mining Ltd.

Havieron is located approximately 45km east of Newcrest's Telfer gold mine and, subject to a positive decision to mine, will leverage the existing infrastructure and processing plant to significantly reduce the project's capital expenditure and carbon impact for a low cost pathway to development. An extensive growth drilling program is presently underway. Construction of the box cut and decline to develop the Havieron deposit commenced in February 2021.

Greatland has a proven track record of discovery and exploration success. It is pursuing the next generation of Tier 1 mineral deposits by applying advanced exploration techniques in under-explored regions. The Company is focused on safe, low-risk jurisdictions and is strategically positioned in the highly prospective Paterson region. Greatland has a total six projects across Australia with a focus on becoming a multi-commodity mining company of significant scale.

# Appendix 1 JORC Code, 2012 Edition – Table 1

# Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	Diamond drilling core samples are obtained from core drilling in Proterozoic basement lithologies.
	Core is cut along the orientation line and one half consistently sampled.
	PQ-HQ and NQ diameter core was drilled on a 6m run. Core was cut using an automated core-cutter and half core sampled at 1m intervals or at breaks for major geological changes. Sampling intervals range from 0.2 – 2.0m. Sample weights were typically between 0.6 and 5.9 kg. Cover sequences were not sampled.
Drilling techniques	Permian Paterson Formation cover sequence was drilled using mud rotary drilling. Depths of cover typically observed to approximately 420m vertically below surface. Steel casing was emplaced to secure the pre-collar.
	Core drilling was advanced from the base of the cover sequence with PQ3, HQ3 and NQ2 diameter double tube coring configuration with minor HQ and PQ triple tube configuration. Navi drilling was undertaken to start wedged holes from parent holes.
	Core from inclined drill holes are oriented on 3m and 6m runs using an electronic core orientation tool (Reflex ACTIII). At the end of each run, the bottom of hole position is marked by the driller, which is later transferred to the whole drill core run length with a bottom of hole reference line.
Drill sample recovery	Core recovery is systematically recorded from the commencement of coring to end of hole, by reconciling recovered core measurements against driller's depth blocks in each core tray, as recorded in the database. Driller's depth blocks provided the depth, interval of core recovered, and interval of core drilled. Core recoveries below the cover sequence were typically 100%, with isolated zones of lower recovery. Cover sequence drilling by the mud-rotary drilling did not yield recoverable samples.
	Those sections of wedge holes that were Navi drilled did not produce recoverable sample material and have not been sampled.
	No specific measures have been taken to maximise recovery, other than employing professional and well respected drillers;
	There is no discernible relationship between sample recovery and the grade of any important variable.
Logging	Geological logging recorded qualitative descriptions of lithology, alteration, mineralisation, veining, and structure (for all core drilled, 209,911 of drilling from 311 holes drilled up until 2 December 2021, all intersecting mineralisation), including orientation of key geological features.
	Geotechnical measurements including Rock Quality Designation (RQD) fracture frequency, solid core recovery and qualitative rock strength measurements were recorded by Geologists or Geotechnical Engineers.
	All geological and geotechnical logging was conducted at the Havieron site.
	Magnetic susceptibility measurements were recorded every metre. The bulk density of selected drill core intervals was determined at site on whole core samples.
	Digital data logging was captured on diamond drill core intervals only, and all data validated and stored in a Datashed database.
	All drill cores were photographed (wet and dry), prior to cutting and/or sampling the core.
	The logging is of sufficient quality to support Mineral Resource estimates, mining studies and metallurgical studies
	100 percent of recovered core in the basement rocks has been logged.
Sub-sampling techniques and sample preparation	Core was cut and sampled at the Telfer or Havieron core processing facilities. Half core samples were collected in pre- numbered calico bags and grouped into bulk bags for dispatch to the laboratory. Sample weights typically varied from 0.7 to 5.6kg. Sample sizes are considered appropriate for the style of mineralisation. Sample lengths typically ranged from 0.24 to 2m with 54% of sample being 1m in length. Drill core samples were freighted by air and road to the laboratory.
	Navi drill holes did not produce recoverable material and have not been sampled.
	Sample preparation was conducted at the independent ISO17025 accredited Intertek Laboratory, Perth (Intertek). Samples were dried at 105°C, and crushed to 95% passing 4.75mm, and then split to obtain up to 3kg sub-sample, which

Criteria	Commentary
	was pulverised (using LM5) to produce a pulped product with the minimum standard of 95% passing 106µm. Routine grind size analysis is conducted. Duplicate samples were collected from crush and pulp samples at a rate of 1:20.
	Coarse Crush and Pulp Duplicate results show an acceptable level of variability for the material sampled and style of mineralisation.
	Periodic size checks (1:20) for crush and pulp samples and sample weights are provided by the laboratory and recorded in the Datashed database. Field Duplicate samples are not (routinely) taken.
	Sampling and sample preparation sizes and quality control protocols are considered appropriate to the grain size of the material being sampled.
Quality of assay data and laboratory tests	Assaying of drill core samples was conducted at Intertek. All samples were assayed for 48 elements using a 4-acid digestion followed by ICP-AES/ICP-MS determination (method 4A/MS907), which is considered to provide a total assay for copper. Gold analyses were determined by 50g fire assay with AAS finish (method FA50N/AA), which is considered to provide a total assay for gold.
	No other analytical methods or tools have been used in the estimation.
	Sampling and assaying quality control procedures consisted of inclusion of certified reference material (CRMs), coarse residue and pulp duplicates with each batch (at least 1:20). Assays of quality control samples were compared with reference samples in the Datashed database and verified as acceptable prior to use of data from analysed batches. Batches failing QA/QC tests were re-submitted for assay.
	Laboratory quality control data, including laboratory standards, blanks, duplicates, repeats and grind size results are captured in the Datashed database and assessed for accuracy and precision for recent data.
	Extended quality control programs including pulp samples submitted to an umpire laboratory.
	Analysis of the available quality control sample assay results indicates that an acceptable level of accuracy and precision has been achieved and the database contains no analytical data that has been numerically manipulated.
	The assaying techniques and quality control protocols used are considered appropriate for the data to be used for reporting Exploration Results and Mineral Resources.
Verification of sampling and assaying	Assessment of reported significant assay intervals was verified by re-logging of diamond drill core intervals and assessment of high-resolution core photography. The verification of significant intersections has been completed by Newcrest personnel and Newcrest's Competent Person/Qualified Person.
	No twinned holes have been drilled, however there are many 'wedge/daughter' holes that provide close-spaced intersections in adjacent holes.
	Sampling intervals defined by the geologist are electronically assigned sample identification numbers prior to core cutting. Corresponding sample numbers matching pre-labelled calico bags are assigned to each interval. Electronically generated sample submission forms providing the sample identification number accompany each submission to the laboratory. Assay results from the laboratory with corresponding sample identification are loaded directly into the Datashed database.
	No adjustments are made to any assay data.
	There are no currently known drilling, sampling, recovery, or other factors that could materially affect the accuracy or reliability of the data.
Location of data points	Drill hole collar locations were surveyed using a differential GPS with GNSS with a stated accuracy of +/- 0.5m for all drill holes reported.
	Drill rig alignment was attained using an electronic azimuth aligner.
	Downhole survey was collected at 6-12m intervals in the cover sequence, and every 6 to 30m in diamond drill core segments of the drill hole using single shot (Axis Mining Champ Gyro). The single shot surveys have been validated using continuous survey to surface (Axis Mining Champ) along with a selection of drill holes re-surveyed by an external survey contactor using a DeviGyro tool – confirming sufficient accuracy for downhole spatial recording.
	All collar coordinates are provided in the Geocentric Datum of Australian (GDA20 Zone 51). All relative depth information is reported in AHD +5000m.
	A LIDAR survey was completed over the project area in Nov 2019 which was used to prepare a DEM / topographic model for the project with a spatial accuracy of +/- 0.1m vertical and +/- 0.3m horizontal. The topography is generally low relief to flat, elevation within the dune corridors in ranges between 250-265m Australian Height Datum (AHD) steepening to the southeast. Easting and Northing coordinates are provided in the Geocentric Datum of Australian (GDA20 Zone 51) and all vertical level information is reported in AHD +5000m.

Criteria	Commentary
Data spacing and distribution	Within the South East Crescent Zone and Breccia Zone and Eastern Breccia drill hole spacing ranges from 50 by 100m, to 50 by 50m within the current resource extents. Outside the resource boundary drill hole spacing ranges from 50 to 200m in lateral extent within the Breccia Zone over an area of ~2km2.
	The data spacing is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.
	Samples have not been composited.
Orientation of data in relation to geological structure	Drill holes targeting the Crescent Zone are oriented to intersect the steeply dipping high-grade sulphide mineralisation zones at an angle of greater than 40 degrees. As such, the drilled length of reported intersections is typically greater than true width of mineralisation in this Zone. Most of these holes also intersect the adjacent Breccia Zones.
	Drill holes targeting the Breccia Zones are oriented to intersect at angles either broadly perpendicular to the adjacent Crescent Sulphide Zones, or if drilling away from the South East Crescent Zone area, at intersections broadly perpendicular to the elongation of the ovoid breccia body. Given the lower level of understanding of the breccia geometries it is not possible to quantify the relationship between drilled and true length of reported intersections in these Zones.
	The attitudes of the South East Crescent Zone and Main (Northern) Breccia Zone and the variety in drilling orientations through such suggest no sample orientation related biases affect these zones.
	The Eastern Breccia, which is interpreted to strike north-westerly and dip steeply, is intersected almost exclusively with moderate-steep west-to-east drilling.
Sample security	The security of samples is controlled by tracking samples from drill rig to database.
Sample security	The security of samples is controlled by tracking samples from drill rig to database. Drill core was delivered from the drill rig to the Havieron core yard every shift. On completion of geological and geotechnic al logging, core processing was initially completed by Newcrest personnel at the Telfer facility but later done at the Havieron facility once it was operational.
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Sample security Audits or reviews	The security of samples is controlled by tracking samples from drill rig to database. Drill core was delivered from the drill rig to the Havieron core yard every shift. On completion of geological and geotechnical logging, core processing was initially completed by Newcrest personnel at the Telfer facility but later done at the Havieron facility once it was operational. Samples were freighted in sealed bags by air and road to the Laboratory, within the custody of Newcrest representatives. Sample numbers are generated directly from the database. All samples are collected in pre-numbered calico bags. Verification of sample numbers and identification is conducted by the laboratory on receipt of samples, and sample receipt advice issued to Newcrest. Details of all sample movement are recorded in a database table. Dates, Hole ID sample ranges, and the analytical suite requested are recorded with the dispatch of samples to analytical services. Any discrepancies logged at the receipt of samples into the analytical services are validated.

# Section 2: Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	The Havieron Project is located within mining tenement M45/1287 and is jointly owned by Greatland Pty Ltd and Newcrest Operations Limited ("Newcrest"). Newcrest has entered into a Joint Venture Agreement (effective 30 November 2020) and Farm-In Agreement (effective 12 March 2019) with Greatland Pty Ltd and Greatland Gold plc. Newcrest currently holds a 60% joint venture interest and is entitled (subject to the terms of the Joint Venture Agreement) to an additional 10% interest, giving an aggregate interest of 70% (Greatland 30%). Newcrest also has an option to acquire a further 5% joint venture interest at fair market value.
	Newcrest and the WDLAC are parties to an ILUA which relates to the use of native title land for Newcrest's current operations at Telfer and its activities within a 60-km radius around Telfer and includes its exploration activities at Havieron. The parties have agreed that the ILUA will apply to any future development activities by the Joint Venture Participants (Newcrest and Greatland) at Havieron. The mining tenement M45/1287 was granted on 10 September 2020.

Exploration done by other parties	Newcrest completed six core holes in the vicinity of the Havieron Project from 1991 to 2003. Greatland Gold completed drill targeting and drilling of nine Reverse Circulation (RC) drill holes with core tails for a total of approximately 6,800m in 2018. Results of drilling programs conducted by Greatland have previously been reported on the Greatland website.
Geology	The Havieron Project is located within the north-western exposure of the Palaeo-Proterozoic to Neoproterozoic Paterson Orogen (formerly Paterson Province), 45 km east of Telfer. The Yeneena Supergroup hosts the Havieron prospect and consists of a 9km thick sequence of marine sedimentary rocks and is entirely overlain by approximately 420m of Phanerozoic sediments of the Paterson Formation and Quaternary aeolian sediments.
	Gold and copper mineralisation at Havieron consist of breccia, vein and massive sulphide replacement gold and copper mineralisation typical of intrusion-related and skarn styles of mineralisation. Mineralisation is hosted by metasedimentary rocks (meta-sandstones, meta-siltstones and meta-carbonate) and intrusive rocks of an undetermined age. The main mineral assemblage contains well developed pyrrhotite-chalcopyrite and pyrite sulphide mineral assemblages as breccia and vein infill, and massive sulphide lenses. The main mineralisation event is associated with amphibole-carbonate-biotite-sericite-chlorite wall rock alteration. Drilling has partially defined the extents of mineralisation which are observed over a 650m by 350m ovoid area, and to depths of up to 1500m below surface.
Drill hole Information	Not applicable as this release does not include new Exploration Results. Refer to previous exploration releases for drillhole information of the previously reported intercepts highlighted in this report and used in the Mineral Resource Estimate.
Data aggregation methods	Not applicable as this release does not include new Exploration Results. Refer to previous exploration releases for drillhole information of the previously reported intercepts highlighted in this report and used in the Mineral Resource Estimate.
Relationship between mineralisation widths and intercept lengths	Not applicable as this release does not include new Exploration Results. Refer to previous exploration releases for drillhole information of the previously reported intercepts highlighted in this report and used in the Mineral Resource Estimate.
Diagrams	Diagrams outlining the extent of the Updated Mineral Resources and Updated Ore Reserves compared to the Stage 1 PFS Resources and Reserves are shown in the body of the announcement. Otherwise not applicable as this release does not include new Exploration Results.
Balanced reporting	This report includes highlights of drilling from previously released drillhole intercepts. There have been twenty one Exploration Results releases for this project made by Newcrest and Greatland. Previous release dates are 25 July 2019, 10 September 2019, 24 October 2019, 2 December 2019, 30 January 2020, 11 March 2020, 30 April 2020, 11 June 2020, 23 July 2020, 10 September 2020, 29 October 2020, 10 December 2020, 28 January 2021, 11 March 2021, 29 April 2021, 10 June 2021, 22 July 2021, 9 September 2021, 28 October 2021, 9 December 2021 and 28 January 2022.
	Previous exploration programs conducted by Newcrest and Greatland have been reported. Exploration drilling programs are ongoing and further material results will be reported in subsequent releases.
Other substantive exploration data	Not applicable as this release does not include Exploration Results.
Further work	Infill and/ or extension drilling is underway on the Inferred Mineral Resource portion of the South East Crescent Zone, looking to upgrade a significant portion of the Inferred Mineral Resource to Indicated Mineral Resource; extension and infill of the Eastern Breccia.
	Growth drilling is underway to extend the limits of the mineralised system down depth and looking to establish additional resources outside those stated in this announcement.

# Section 3: Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	Data logged or received by Newcrest are stored in a SQL acQuire database. Assay and geological data are electronically loaded into acQuire and the database is replicated in Newcrest's centralised database system in Melbourne. In-built validation tools are used in the acQuire™ database and data loggers are used to minimise keystroke errors, flag potential errors and validate against internal library codes. Regular reviews of data quality are conducted by site and corporate teams prior to resource estimation. Final surveyed collars are checked against the original collar GPS pickup and the Lidar topographic surface. Downhole surveys are checked visually and statistically for outliers. Assay data is checked for negative, extreme, missing and overlapping samples. Below detection assay values are set to half the lower detection limit for estimation. Geological domains are reviewed against core photography, geochemistry and Corescan data and

Criteria	Commentary
	checked for overlaps and missing intervals. Data that is found to be in error is investigated and corrected where possible. If the data cannot be corrected it is removed from the data set used for resource modelling and estimation.
	Newcrest provides Greatland with a 'data pack' approximately every 6 weeks containing new drilling data and assay results. Assay data is imported into Greatland's Datashed database directly from the Laboratory assay reports, including laboratory QA/QC data.
Site visits	The Competent Person for Mineral Resources visited Havieron site in November 2021, during which he inspected drilling, sampling, logging, selected drill core, the core cutting facility which was inactive at the time and is satisfied that the data and information generated and is suitable for resource estimation and subsequent reporting in compliance with the JORC Code (2012).
Geological interpretation	The geology model defines several mineralised zones, including a Crescent Zone (containing the sulphide rich material in the area named the "South East Crescent Zone") and several Breccia types (Cemented Breccia (CB) and Crackle Breccia (CBX)) and domains (Havieron and Eastern breccias), and several unmineralised zones (Dolerite Dyke, Calc-silicate country rocks, Permian sequence and Cover). These zones are based on grouped primary logging domain codes interpreted from drill cores, mineralogical logs and assay data. GPL has incorporated much of the previously reported Actinolite Breccia (ACBX) zone into its CB and CBX zones on the bases of their similarity of spatial grade distributions and geometries, and absence of sharp contrasts in gold and copper grades between them. These zones have been modelled into 3D solids in Leapfrog Geo 6.1 using vein, intrusive and erosional implicant models.
	The increased presence of ~northwest trending, steeply dipping diorites in the breccias corresponds to a increase in grade, but these diorites have not been modelled. However, their impact is represented to a large extent by the choice of search neighbourhood parameters.
	The confidence in the location and geometry of Crescent Zone is generally high but decreases as the informing data become more sparse. In some places there is no distinct grade boundary with the adjacent breccias (especially for gold, copper and sulphur) and a "buffer" zone was interpreted to represent such, but analysis of this zone did not support its use in the final model.
	The confidence in the location and geometry of the breccias in the Havieron Breccia zones is variable, but considered moderate in the densely drilled parts of such. However, the confidence decreases markedly as the scale is decreased. As such, this model is not a suitable basis for assessing selective mining options for these zones.
	The confidence in the location and geometry of the breccias in the Eastern Breccia zones is variable, but decreases as the informing data become more sparse. As such, this model is not a suitable basis for assessing selective mining options for these zones. In addition, almost all of the drill holes intersecting these breccias trend from west-to-east.
	The confidence in the location and geometry of the Dolerite Dyke, Calc-Shales and Base of Permian is very high given their relative importance to the resource estimates.
	The interpretation is based mainly on drill hole logging and assay data as previously described in this Table. In addition, Greatland acknowledges the extensive ground work undertaken by Newcrest in identifying and interpreting the geology and agrees with the broad geological domains defined in the geological model.
	The Crescent Zone is generally very well defined and it is difficult to generate an alternative, plausible and materially different zone from the available data. The zone is typically intersected where expected by new drilling.
	The Breccia zones are reasonably well defined at a large scale but are much less well defined at the short scale owing to the low geological and grade continuity of such. However, it is difficult to generate alternative, plausible and materially different zones from the available data.
	Geological controls on estimation are implicit in the domaining and the nature of their boundaries. In addition, the ~northwest striking, steeply dipping trend of the diorites is reflected in the choice of search parameters within the breccia.
	Factors affecting continuity both of grade and geology include the change in type and intensity of brecciation and breccia fill (veining) across the Havieron system. Greatland considers the brecciation is logged and modelled in sufficient detail to be used in the estimation.
Dimension	Variable brecciation, alteration and sulphide mineralisation are observed with a footprint with dimensions of 650m x 350m trending in a north west orientation and over 1100m in vertical extent below ~420m of cover. The Crescent Zone Mineral Resource extents are ~550m in unfolded plan section, between 5-40m true width and 1000m in vertical extent, mineralisation remains open at depth.
	The Breccia Mineral Resource extents occurs as a 50-100m sleeve marginal to the Crescent Zone Mineral Resource and also a ~250x50x300 NW trending zone in the north western half on the breccia complex, the "Northern Breccia" which remains open at depth and to the northwest.
	The Eastern Breccia Mineral Resource has dimensions of 200m strike x150m width x 250m vertical extent.

Criteria	Commentary
Estimation and modelling techniques	Greatland used nominal 5m composites on a domain-wise basis for variography, search neighbourhood optimisation and estimation, with the actual composite length for each intersection adjusted to minimise the amount of 'short tails'.
	A geostatistical review using the data up to 2 December 2021 confirmed that the gold and copper grade distributions showed that the Breccia Zones are moderately diffusive in nature, and the Crescent Zone is relatively weakly diffusive in nature. Even though the Crescent Zone is weakly diffusive in nature, Ordinary Kriging (OK) is considered an appropriate estimator given the geological setting, geological observations from the logging data, geometry of the domain and its tenor relative to the likely operating cut-off grade. That review also broadly confirmed the validity of the variogram models and search neighbourhoods used by Newcrest for the Stage 1 PFS Model, although Greatland refined the parameters based on the more extensive data set and an improved approach to unfolding for the Crescent Zone.
	Composite data for gold, copper and bismuth were declustered using a cell-declustering approach for each domain.
	Outlier grades were dealt with through top cutting for each variable on a domain-basis, with top-cuts generally around the 99th percentile of the declustered distribution.
	Greatland used a 'manual unfolding' method (undertaken in Micromine) for the Crescent Zone that yielded more robust variograms and subsequently greater confidence in the variogram models and estimates of gold and copper for this zone (note that the model blocks were also unfolded, but this meant that parent-cell estimation could not be used for this zone). This method uses an underlying controlling surface that represents the mid-surface of the solid that was created by GPL. Whilst the unfolding was not perfect, it was considered to be an improvement on the previous approach.
	Greatland used a 'trend model' method (undertaken in Micromine) to guide the estimation of grade and density for the Breccia zones. This approach generates a locally varying anisotropy (LVA) for each block that orients the search ellipse and variogram model to the local geometry. This approach does not explicitly unfold the composite data or block model.
	A quantitative kriging neighbourhood analysis (QKNA) was undertaken on gold for each domain with the aim to maximise the slope-of-regression and kriging efficiency, whilst minimising the percentage of negative weights. Large search radii were used but with maximum number of points constraints to meet these aims. Search ellipsoids were aligned with variogram model ellipses.
	All estimates used a hard boundary between the Crescent Zone and other domains. A transitional boundary of around 20m was used between the Cemented and Crackle Breccias to reflect the variable nature of this boundary. Only blocks 10m either side of the Cement and Crackle Breccia boundaries were allowed to utilise the transitional boundary data, the remainder of the breccia was estimated from only data within their respective domains.
	Density was estimated by OK (rather than IDW previously) on a domain-wise basis owing to the more extensive database for this model. Whilst density is most strongly correlated with iron (Fe) and, to a lesser extent, sulphur (S), it is also significantly influenced by the domain, with the Crescent domain capturing the high iron and sulphur grades, and thus density, very well.
	Gold and copper were estimated in a single pass for each domain, whereas bismuth and density were estimated using two-passes. Bismuth was primarily estimated in 2 passes to better honour its spatially bimodal distribution.
	Around 30% of the Inferred resources in the Eastern Breccia are based on composites with a closest distance to the block of more than 30m and data from less than 4 holes, which GPL has used to define extrapolation.
	These blocks are mainly on the edges of the domain as exhibited in the following plan views at 60m intervals of the extrapolated blocks colour coded by distance to nearest informing composite (interpolated blocks not shown for clarity), as well as the location of the informing composites (window +/-10m)



The following table shows the proportion of resource tonnage where the nearest informing composite is more than 30m away from the block by domain and category:

Domain	Category	CRS	СВ	CBX	CB+CBX	Total
Havieron	Indicated	4%	1%	2%	2%	4%
	Inferred	48%	25%	26%	25%	29%
Eastern	Indicated					
	Inferred		52%	25%	52%	52%
Combined	Indicated	4%	1%	2%	2%	4%
	Inferred	48%	33%	26%	33%	34%

Grades and density were estimated in Micromine 2022 software.

The sensitivity of the Crescent Zone gold estimates to various top cut, search neighbourhood and variogram model parameters was assessed with variations commensurate with that implied by the resource classification.

There has been no production from Havieron.

Gold and copper are the only revenue generating products assumed to be recovered. There is sufficient metallurgical testwork to support these assumptions for the Crescent and Havieron Breccia domains. The Eastern Breccia domain is assumed to have similar metallurgical properties to the Havieron Breccia domain. The resource does not include any by-products.

Bismuth has been estimated into the gold-based domains using a similar approach as for estimating gold and copper, but with bismuth-specific parameters and a two-pass search plan.

A parent block size of 20x20x20m (East, North, RL) with sub-blocks down to 4x4x4m has been used for all mineralised domains. This is geostatistically acceptable for the Crescent Zone, where the data density ranges from 50-100m. Whilst

Criteria	Commentary
	Micromine does not currently support parent-cell estimation for an unfolded model such as this, the impact of such is deemed negligible. However, this size is considered small for the Breccia Zones, even though parent-cell estimation was used for such. Having said this, resources in this domain have been reported using NSR-based shells that mitigate most of the detrimental effects of the block size.
	The Crescent Zone is almost exclusively estimated to be above the cut-off grade and minimum stoping thickness (around 4m). Planned stope heights are well above the block vertical dimension (20m). Change-of-support tests over various block dimensions also suggest that selectivity issues are unlikely to be material for this domain. The Breccia Zones are mainly low grade and the model for such is not designed for assessing selective mining options. Change-of-support tests revealed significant differences between modelled and theoretical tonnages and grades at cut-offs well above the reporting cut-off (A\$50 NSR/t).
	Domains have principally been defined on gold grade, with copper, iron and sulphur grades also having a significant impact. Bismuth tends to be well, albeit variably, correlated with gold and so the gold domains are considered appropriate for estimating bismuth. Whilst copper is less well correlated to gold, the gold domains are considered appropriate for estimating copper. Within these domains gold, copper and bismuth grades have been estimated independently. Given that each of these elements is assayed for each sample and the complexities involved in such, the need for co-estimation, such as co-kriging, was deemed unnecessary.
	Other key variables, such as iron, sulphur and cobalt, which Newcrest showed to be well correlated, were not assessed in great detail or co-estimated as they are not important for the purposes of this model (i.e., they are not inputs into metallurgical recovery or NSR formulae).
	The geological interpretation controls the resource estimates through the domaining, boundary controls between domains, and unfolding trend modelling as previously described.
	The grade distributions for gold, copper and bismuth are strongly skewed. In addition, the very high-grade composites cannot be sub-domained out with the existing density of data. As such, outlier grades were cut as previously described.
	The estimated block grades and densities were compared to the raw and composite grades and densities using swath plots, cross-sections and statistical analysis.
	There is no reconciliation data for Havieron.
Moisture	All tonnages are calculated and reported on a dry tonnes basis.
Cut-off parameters	As Havieron is a multi-element deposit, a Net Smelter Return (NSR) cut-off is adopted. The generic NSR formula is as
	NSR (AUD/t processed) = (Gold Price * Ore Gold Grade * Gold Recovery * Gold Payability) + (Copper Price * Ore Copper Grade * Copper Recovery * Copper Payability) – (Treatment, Refining, Freight, Insurance and Selling Costs) – Penalties – Royalties
	The NSR calculation for Mineral Resources takes account revenue factors, metallurgical recovery assumptions, transport costs, refining charges, penalties and royalty charges with the gold price of US\$1,600 per ounce, copper price of US\$3.50 per pound (US\$7,175/t) and an USD:AUD exchange rate of 0.73. Commodity prices and exchange rate forecasts were based on the average between Long Term 3rd Quartile and Forward Curve price forecasts, as sourced from Consensus Economics and Bloomberg.
	The nominal cut-off value for resource reporting depends on the style and geometry of mineralisation with the Crescent Zone being amenable to stoping, whereas the Breccia Zones require a less selective (and lower cost) mining method. The cut-offs were derived after incorporating mining, haulage, processing and general and administration costs.
	The marginal cut-off for SLOS ("sub-level open stoping", for the Crescent Zone) is estimated at A\$80 NSR/t, and accounts for mining, haulage, processing and general and administration costs, which are based on the Stage 1 PFS Economic Evaluation average Life-of-Mine (LOM) Costs.
	The Mineral Resource was defined based on a threshold of A\$80 NSR/t within the Crescent Zone. The vast majority (94%) of the estimated Crescent Zone material reports above the A\$80 NSR/t, as such domaining all material below this cut-off is not practicable. Areas of Crescent Zone material that had a higher frequency of blocks below A\$80 NSR/t were removed from the classification.

Criteria	Commentary	Commentary									
	The cut-off for the Breccia Zones (assuming SLC or "sub level caving") is estimated at A\$50 NSR/t, and accounts for mining, haulage, processing and G&A costs, which are based on the PFS Analysis.										
	For the Breccia Mineral Resources, a smoothed shell was generated in Leapfrog Version 2021.1.3 based on a threshold of A\$50 NSR/t and includes internal below value cut-off blocks and excludes isolated above cut-off blocks. As the Breccia Resources are consider non-selective bulk mining domains all sub-economic material within the final A\$50 NSR/t shell was classified to represent the non-selective nature.										
	Both SE Crescent Mineral Resources and Breccia Mineral Resources are representing the limit of reasonable prospects of eventual economic extraction. The A\$80 NSR/t cut-off for SE Crescent Mineral Resources and A\$50 NSR/t cut-off for Breccia Mineral Resources are based on current understanding of the Havieron deposit and other benchmarked operations.										
	Greatland us to be included average NSR	ed smoothed d in the resou R/t's below th	d NSR she urces. The e nominal	Ils to define following ta cut-off NSR	its reable sh ble sh ceach	sources lows th Domai	s and this r e total and n/Lode/cat	results in s proportion egory corr	some materia n of the Mine nbination.	al below the n ral Resource	ominal cut-off tonnages and
		Zone		Category	Cut- NSR	off (A\$/t)	Tonnage Above Cut-off (Mt)	Tonnage Below Cut-off (Mt)	% of Tonnage below Cut- off	% of NSR below Cut- off	
		Crescent	Havieron	Indicated	\$ \$	80 80	25.1	1.2	5% 3%	1% 1%	а А
				Total	\$	80	31.6	1.4	4%	1%	
		Breccias	Eastern	Indicated Inferred	\$ \$	50 50	12 0	18	13%	5%	-
				Total	\$	50	12.0	1.8	13%	5%	а.
			Havieron	Indicated Inferred	\$ \$	50 50	6.4 26.5	2.0 9.8	24%	12%	
				Total	\$	50	32.9	11.8	26%	13%	
		Combined		Indicated			31.5	3.2	9%	2%	
				Total			76.5	15.0	16%	4%	-
Mining factors or assumptions	The Stage 1 PFS showed that the Crescent Zone and immediately adjacent diluent material is amenable to mining by sub-level open stoping (SLOS) with minimum mining dimensions of 5mW x 15mL x 25mH. The updated resource model autoeste that finding										
	The Stage 1 PFS suggests that the Breccia Zones may be amenable to, and require the lower costs of, bulk mining methods such as sub-level caving (SLC). SLC is likely to require minimum mining dimensions of 80mW x 100mL x 100mH. Whilst SLC would likely require a temporary pillar near the top to act as a buffer between the cave and the Permian cover, this material may be recoverable as part of the cave draw and so it is not excised from the Mineral Resources. Furthermore, the Mineral Resources assume there will be no significant permanent pillars in the resource volume, although it is possible that a pillar will need to be left between the paste-filled Crescent Zone stopes and the Breccias, and which will be accounted for during Ore Reserve estimation.										
Metallurgical factors or assumptions	It is anticipated that Havieron ore will be processed on a campaign basis through the Telfer Train 2 Treatment Plant circuit at a throughput of approximately 3 Mtpa. It is anticipated that metal will be recovered through conventional flotation to produce a copper/gold concentrate and a gold doré through a newly installed flotation tails carbon-in-leach (CIL) circuit. The technology associated with the ore processing is conventional and the flowsheet is similar to that utilised by other operations.										
	Metallurgical completed or spatial covera Zones and 30 Mineral Reso approximatel project. Note they have sin	recovery ass 38 variabilit age of the Cr 0 samples ar purces in this y 88% and re a that GPL do nilar metallur	sumptions rescent Zo e located i domain. I ecoveries o pes not ha rgical prop	are based of during the ne Domain. n the Cresc Based on th of copper ar ve any meta erties to the	on deta Havier Of the ent Zo ese sa e expe allurgio ir corre	ailed an on Cor 38 sau ne Dor amples, ected to al testv espond	alysis and acept Study mples, 8 sa nain, of wh metallurgi o average a vork results ing Havier	laboratory y (2020) a amples are nich 21 san cal recove approxima s for the E on Breccia	y flotation and nd Stage 1 F e located in t mples are loc eries for gold tely 84% thro astern Brecc as.	d leach test w PFS (2021) wi he Havieron I cated within th are anticipate oughout the li cias and it is a	vork th good Breccia he Indicated ed to average fe of the ssumed that
Environmental factors or assumptions	Detailed envi subterranean hydrogeologi	Detailed environmental studies have been undertaken in the Project area and include flora and vegetation, fauna, subterranean fauna, waste rock characterisation, soil and landform study, surface hydrology assessment, a basic hydrogeological assessment and a greenhouse gas emissions study.									
	The Project h title corporation	The Project has been designed to recognise biodiversity values and, through consultation with Martu and their native title corporation (WDLAC), minimise the impacts to sites and landscapes of cultural significance. The footprint for the									

Criteria	Commentary					
	Project has been minimised through the use of Telfer Gold Mine infrastructure to process the of	f existing trac ore and dispo	cks and a ose of the	reas of disturbance, as tailings material.	s well as utilising the existing	
	Waste rock characterisation has been undertaken and shows that it contains material which has potentially acid forming (PAF) and metalliferous drainage, in addition to dispersive or saline material. The portion of PAF material is less than 1% of total waste volumes. Waste dumps have been designed for the life of mine that have incorporated cells to safely encapsulate the PAF material. The waste dump is to be located near the boxcut to minimise haulage distance and considering the local surface terrain and environmental and cultural aspects.					
	A staged approach for approvals is being undertaken, with Stage 1 currently approved, which has allowed the development of the boxcut, decline and service corridor. These approvals also allow for a waste rock dump, evaporation ponds and supporting infrastructure such as offices and workshops.					
	Stage 2 approvals are expected to consist of a infrastructure and changes to Telfer approvals	a SLOS unde to accept Ha	rground r avieron ta	nine, permanent infras ilings in existing tailing	structure corridor, associated gs storage facilities.	
Bulk Density	Havieron has an extensive database of bulk density measurements based on the Archimedes method (water immersion) of 10-20cm samples taken at 10-50m intervals down the hole. Whilst the geology, and thus density, can change rapidly down the hole, the number of measurements means that the data set is likely to be representative for the purposes of this estimate.					
	Most of the core in the mineralised zones is ve	ery competen	t and of l	ow to negligible porosi	ity.	
	Bulk density is estimated into blocks using OK Breccia zones and the scope for an estimation in the Crescent zone is higher and, whilst loca bias exists	on a domain related bias l estimation-i	-specific l is very lo related bi	basis. The variability o ow, even at the local s ases may occur, it is u	of density is relatively low in the cale. The variability of density unlikely that a significant global	
Classification	Resources preliminarily classified on the basis	of the quality	y and qua	antity of data, the geolo	ogical and grade continuity,	
	and the confidence in the gold grade estimates. Data quality is implicitly accounted for by excluding unreliable data from the estimate.					
	Confidence in the estimate was initially assessed using the 'Slope-of-regression', 'Average Distance to informing composites', 'Closest Distance to informing composites', 'Kriging Efficiency', 'Number of Informing Drill Holes', and 'Number of Informing Composites' statistics stored during estimation. The schema was then simplified to only account for the 'Slope-of-regression' and 'Average Distance to informing composites' statistics. Shells based on these two statistics were computed at various thresholds for each of the domains. The chosen nominal parameters were:					
	Domain C	Category	Slope	Average Distance	1	
	CRS Ir	ndicated	>0.6	<45m		
	CRS Ir	nferred	>0.3	<75m		
	Breccias Ir	ndicated	>0.0	<30m	-	
	Dieccias	lielleu	-0.5	<73III		
	This approach led to some blocks not meeting these criteria to be included and some meeting these criteria to be excluded from the shells. Furthermore, some edges were manually trimmed to ensure continuity of classification.					
	The final classification then considered the 'reasonable prospects of eventual economic extraction', and specifically the mineability by the proposed method, the recoverability by the proposed processing method, and the likelihood that the resource would be above the cut-off.					
	Several early drill holes were deemed to be of low reliability and were excluded from the estimation. All remaining data are considered to be suitable for the purposes of resource estimation.					
	Geological and grade continuity in the Crescent Zone can reasonably be assumed in most places, and implied elsewhere. When combined with the density and orientation of data, as well as the likelihood and impact of any misestimation, this supports the assigned Indicated (assumed) and Inferred (implied) resources classification.					
	Geological and grade continuity in the Breccia high in the southern parts of the Breccias ad reasonably assumed. As such, some of this n Breccia Zone has been assigned as Inferred n the available data. The confidence in the est and significant misrepresentation of tonnages, the classification is strictly only applicable at th	a zones are to jacent to the material has esources as timates of the grades and he reporting c	ypically n crescen been ass the conti e Breccia location a cut-off A\$	nuch lower. However it Zone and geologica igned as Indicated re- nuity of geology and g zones decreases rap above elevated cut-off 50 NSR/t.	, the data density is moderate- al and grade continuity can be sources. The remainder of the grade can only be implied from idly as the cut-off is increased is in this model is likely, and so	

Criteria	Commentary
	The classification appropriately reflects the views of the Competent Person.
Audits or reviews	SRK Consulting (Australasia) Pty Ltd has completed an independent technical assessment of the 2022 Mineral Resource estimates completed by Greatland for the Havieron gold and copper deposit. As part of that assessment, SRK reviewed the resource modelling methods and parameters and is of the opinion that they are reasonable and take into consideration all of the current exploration data and levels of technical knowledge of the Havieron deposit. SRK considers that the Mineral Resources have been reported in accordance with guidelines and principles outlined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 edition).
Discussion of relative accuracy / confidence	Greatland has conducted Change-of-Support studies using the Discrete Gaussian Method for the Crescent Zone and Breccia Zones. These studies revealed that the estimates for the Crescent Zone are robust within the context of the likely operating cut-off value. The studies also revealed that the estimates for the Breccia Zones are reasonable at the likely operating cut-off (A\$50 NSR/t), but this accuracy rapidly diminishes as the cut-off is increased. There is no historical production from Havieron.

# Section 4: Estimation and Reporting of Ore Reserves

Criteria	Commentary
Mineral Resource Estimate for conversion to Ore Reserves	Havieron is a gold and copper deposit located within the boundaries of the East Pilbara Shire in the Paterson Province, Western Australia (WA), and is located approximately 45 kilometres (km) east of Newcrest's fly-in fly-out Telfer Mine. The Havieron deposit lies unconformably below approximately 420 metres (m) of post-mineral, flat-lying Permian fluvio-glacial sediments of the basal sequence rocks in the Palaeozoic Canning Basin.
	The geology model represents several mineralised zones, including a Crescent Zone (containing the sulphide rich material in the area named the South East Crescent Zone) and several Breccia types (Cemented Breccia (CB) and Crackle Breccia (CBX)) and domains (Havieron and Eastern breccias), and several unmineralised zones (Dolerite Dyke, Calc-silicate country rocks, Permian sequence and Cover). These zones are based on grouped primary logging domain codes interpreted from drill cores, mineralogical logs and assay data.
	The February 2022 Updated Mineral Resource Estimate (Updated Mineral Resource) was used as the basis for the February 2022 Ore Reserve Update. Mineralisation of gold and copper in the Updated Mineral Resource are within the Crescent and the Breccia Zones. High grade gold mineralisation is associated with a massive sulphide zone termed the Crescent Zone which occurs on the margin of the Breccia. The Crescent Zone is characterised by a series of massive to semi-massive sulphide replacement units that have a subvertical dip and is best developed on the SE of the system forming as arcuate, crescent like geometry.
	The Crescent Zone is 5-40 m wide, extending 700m in length in unfolded section from the basement contact and defined over 1,000 m vertically, tapering to ~600 m in length and open at that depth. The South East Crescent Zone has continued to be the focus of drilling and has been progressively infilled to a nominal drill spacing of 50m for the Indicated Mineral Resources, and 75m spacing for the Inferred Mineral Resources.
	OK estimation has been used for gold, copper, bismuth and density. A panel size of 20 mE x 20 mN x 20 mRL was used for both the SE Crescent and Breccias with sub-blocking allowed down to a size of 4 mE x 4 mN x 4 mRL.
	The Updated Mineral Resource estimate for the South East Crescent has been classified as Indicated Mineral Resource and Inferred Mineral Resource based on data quality and quantity factors as well as geological domaining, estimation confidence and reasonable prospect of the eventual economic extraction (RPEEE).
	The Updated Mineral Resource is reported inclusive of Ore Reserves.
Site Visits	Greatland's Competent Person for the Ore Reserve estimate visited site in November 2021. A general Havieron site tour was conducted of the camp, boxcut and decline, exploration drilling, core farm, and of the Telfer camp and processing plant. Operational challenges were noted with unconsolidated material in the upper part of the decline and discussions were held with the operations team and decline contractor regarding trials underway to determine optimal cut length, development cycle and support measures to ensure the effective progress of the decline.
	Newcrest stated on 17 February 2022 as part of their Half Year Results Update that the decline experienced difficulty in poor ground conditions during the early stages. The team is working to understand the impact on the development schedule and this may also impact on vertical development. First production ore is expected in FY24 (rather than H1 FY24) and more updates will be provided as information comes to hand
	The Competent Person has undertaken sufficient investigations of the mine plan and material Modifying Factors applied to create the mine plan to satisfy himself that the Ore Reserves have been appropriately estimated and reported in compliance with the 2012 edition of the JORC Code.
Study Status	A Stage 1 PFS was completed to generate the supporting basis for the maiden Havieron Ore Reserve Estimate published in October 2021. The mine design and schedule were updated in February 2022 to reflect the resource model changes presented in the February 2022 Resource Model Update and forms the basis for this Ore Reserve Update. This update

Criteria	Commentary
	is considered to remain at a Pre-Feasibility level of confidence and shows that the mine plan remains technically achievable and economically viable taking into consideration currently known material Modifying Factors.
Cut-off Parameters	The Ore Reserve employs a value-based cut-off determined from a Net Smelter Return (NSR) to account for the contributions from multi-elements, at a value equal to the site operating cost. The generic NSR formula is as follows:
	NSR (AUD/t processed) = (Gold Price * Ore Gold Grade * Gold Recovery * Gold Payability) + (Copper Price * Ore Copper Grade * Copper Recovery * Copper Payability) – (Treatment, Refining, Freight, Insurance and Selling Costs) – Penalties – Royalties
	Metal price assumptions are as listed in the relevant "Revenue Factors" section. The underlying cost assumptions remained largely the same between the October 2021 Stage 1 PFS and this February 2022 Update, and is in line with the 3 Mtpa Investment Case presented in the Stage 1 PFS.
	The NSR calculation takes into account revenue factors, metallurgical recovery assumptions, transport costs, refining charges, and royalty charges.
	The site operating costs include mining cost, processing cost, relevant site general and administration costs and relevant sustaining capital costs. This cost equates to a break even cut off value of approximately AUD95/t milled, and a marginal cut off value of approximately AUD95/t milled.
	Metallurgical recovery and cost assumptions are discussed in more detail under the relevant headings in Table 1 – Section 4.

Mining factors or	Estimation of the Ore Reserve Update is based on the February 2022 Resource Model Update and involved standard					
assumptions	update to the Stage 1 PFS and is considered to remain at a Pre-Feasibility Level of confidence.					
	The Ore Reserve Update supports the appropriateness of the selected mining method (Sub-Level Open Stoping) at a 3 Mtpa mining rate as the basis of the Ore Reserve estimate.					
		Mine Design Parameter	Value			
		Back fill type		Cemented paste fill		
		Materials handling system		Decline trucking		
			Width	Minimum 5m to Maximum 30 m		
		Stope dimensions	Length	15 to 20 m		
			Sublevel height	25 to 60m, average 50m		
	<ul> <li>The following Modifying Factors have been applied to all mining shapes to accurately represent the expected mined tonnes and grades:</li> <li>Dilution factors for overbreak in primary, secondary and tertiary stopes (average 9%), consisting of waste (average 6%) and stope paste (average 3%); Dilution tonnes were estimated as an equivalent depth of failure based on geotechnical estimations, applied to the individual stope walls and in the respective stoping sequence, to estimate paste and waste rock volumes and expressed here as an average percentage of the overall stope tonnes.</li> </ul>					
	<ul> <li>Mini and</li> </ul>	ng recovery factor of 97.5%, base geotechnical estimation of overall	ed on the near vertical national stope stability.	ature of the stopes, proposed	mining method	
	The ultimate extent of the deposit remains open and orebody knowledge will increase as drilling and mining progres. Current mining modifying factors are based on known data to date and may change as new information becom available.					
	The February 2022 Resource Model is comprised of Indicated Mineral Resources and Inferred Mineral Resources. plans are based on the definition of mining shapes only considering the contribution of metal from Indicated Min Resources. Ore Reserves estimates and statements are required to include estimates of dilution. The dilution included in the Ore Reserve is approximately 2.7Mt which is comprised of Inferred and Unclassified Mineral Resources, waste host and paste fill dilution. Metal from the Inferred and Unclassified Mineral Resource material was not considered in economic assessment of the stopes.					
	The Havieron Project is a greenfield mining project and will require the following mining infrastructure to support the mine:					
	<ul> <li>decli</li> <li>past</li> <li>vent</li> <li>dew</li> </ul>	ine, accesses to the levels, ore pa is fill plant and underground distrib tilation fans, regulators and refrige catering, electrical distribution and	asses, ventilation raises a pution system ration equipment other service equipment	nd other underground excavati	ions	
	Non-mining infr	astructure is discussed in more de	etail under the Infrastructu	ure section.		
Metallurgical factors or assumptions	It is anticipated Treatment Plan Storage Facility and gold doré t ore processing	ated that Havieron underground ore will be processed on a campaign basis through the existing Telfa Plant circuit at a throughput of approximately 3 Mtpa, with tailings being disposed in the current Telfe cility. Metal recovery is anticipated to be through conventional flotation to produce a copper/gold co oré through a newly installed flotation tails carbon-in-leach (CIL) circuit. The technology associated sing is conventional and the flowsheet is similar to that utilised by other operations.				
	Metallurgical re on 38 variability of the Crescent Crescent Zone, samples, avera	covery assumptions are based on / samples during the Havieron Cor t Zone. Of the 38 samples, 8 samples , of which 21 samples are located v age life of mine metallurgical recov	detailed analysis and labo ncept Study (2020) and S ples are located in the bre within the Crescent Zone veries are estimated to be	pratory flotation and leach test v tage 1 PFS (2021) with good s accia zones and 30 samples an Indicated Mineral Resources.	work completed patial coverage e located in the Based on these	
	<ul><li>gold</li><li>copr</li></ul>	l: approximately 88%, and per: approximately 84%, variable of	on block metal grade.			
	Bismuth is the basis of bismuth and concentrate	key deleterious element for the g h content. It is anticipated that the e blending.	old/copper concentrate p impact of bismuth in con-	roduct with smelter penalties centrate will be managed by m	incurred on the ine sequencing	
	Bulk sample or	pilot scale test work has not been	ı undertaken.			

Environmental	Detailed environmental studies have been undertaken in the project area and include flora and vegetation, fauna, subterranean fauna, waste rock characterisation, soil and landform study, surface hydrology assessment, a basic hydrogeological assessment and a greenhouse gas emissions study.
	The Project has been designed to recognise biodiversity values and, through consultation with Martu and their native title corporation (WDLAC), minimise the impacts to sites and landscapes of cultural significance. The footprint for the Project has been minimised through the use of existing tracks and areas of disturbance, as well as utilising the existing Telfer Gold Mine infrastructure to process the ore and dispose of the tailings material.
	Waste rock characterisation has been undertaken and shows that it contains material which has potentially acid forming (PAF) and metalliferous drainage, in addition to dispersive or saline material. The portion of PAF material is less than 1% of total waste volumes. Waste dumps have been designed for the life of mine that have incorporated cells to safely encapsulate the PAF material. The waste dump is to be located near the boxcut to minimise haulage distance and considering the local surface terrain and environmental and cultural aspects.
	A staged approach for approvals is being undertaken, with Stage 1 currently approved, which has allowed the development of the boxcut, decline and service corridor. These approvals also allow for a waste rock dump, evaporation ponds and supporting infrastructure such as offices and workshops.
	Stage 2 approvals are expected to consist of a SLOS underground mine, permanent infrastructure corridor, associated infrastructure and changes to Telfer approvals to accept Havieron tailings in existing tailings storage facilities.
Infrastructure	Havieron is a greenfield mining project and will require the following infrastructure to support mining operations:
	Ventilation fans and refrigeration equipment;     Paste plant;
	<ul> <li>Surface Mining Infrastructure Area (MIA) including camp, offices, workshops, evaporation ponds, electrical substations, explosive magazines, batch plant, waste dumps, ore stockpile, and other facilities;</li> <li>Haulage road and Service Corridor to transport the ore from Havieron to the Telfer Processing Plant and run overhead powerlines along the Service Corridor to extend electrical power from the existing Telfer gas fired power station to Havieron; and</li> <li>Modifications to the existing Telfer Processing plant to treat the ore coming from Havieron.</li> </ul>
	The capital and operating costs for the above have been estimated in the Stage 1 PFS. The infrastructure estimates for this Ore Reserve Update remains in line with the Stage 1 PFS, with additional allowance made for ventilation and processing due to a slightly deeper ultimate depth and in line with the expanded mine plan.
	Access to Telfer Mine is already in place via the Telfer Access Road. Telfer Mine has an existing camp, sealed runway and airport, gas-fired power station and processing plant.
Costs	Capital and operating costs underlying assumptions are to a PFS level. Capital cost estimates are based on multiple market prices across all technical disciplines and include processing upgrade and mine development costs along with associated surface and underground infrastructure, project establishment and sustaining capital costs. These provisions have been allowed for during the life of the mine based on the Stage 1 Study estimates. Contingency has also been factored into the project capital cost estimate consistent with the level of accuracy of the study.
	Newcrest stated on 17 February 2022 as part of their Half Year Results Update that the decline experienced difficulty in poor ground conditions during the early stages. The team is working to understand the impact on the development schedule and this may also impact on vertical development. First production ore is expected in FY24 (rather than H1 FY24) and more updates will be provided as information comes to hand.
	The operating cost estimates are in line with the Stage 1 PFS, which were sources from current Telfer rates and contractor schedule of rates submitted for PFS budget purposes and are inclusive of:
	<ul> <li>mining cost: development by drive type and ground support profile, longhole drilling and blasting, haulage for ore and waste, labour, maintenance and other fixed costs</li> <li>electrical power cost based on estimated power consumption and supply from Telfer Power Plant</li> <li>surface transport cost to Telfer Processing plant</li> <li>processing cost and</li> </ul>
	relevant site general and administration costs.
	Ore Reserve cost estimates have been independently reviewed and are considered to be at an appropriate level for a PFS.
	The Stage 1 PFS transport and refining charges have been developed from first principles consistent with the application of the current Telfer operation. These included charges for deleterious elements, e.g. bismuth where applicable. These assumptions and estimates were carried forward into the February 2022 Update.
	Costs include a revenue-based payment from mining the Havieron Project area under the ILUA with WDLAC.
	State royalties are 2.5% for gold, 5% for copper after allowable deductions.
Revenue factors	Long term metal prices and exchange rate assumptions adopted for estimating this Ore Reserve Update are US\$1,450/oz for gold, US\$3.23/lb for copper, at a USD:AUD exchange rate of 0.73. Commodity prices and exchange rate forecasts were based on the Median Long Term price forecasts, as sourced from Consensus Economics and Bloomberg. These price assumption are higher than the US\$1,300/oz for gold and US\$3.00/lb for copper and USD:AUD exchange rate of

	0.75 assumed for the October 2021 Stage 1 Study, but were selected in line with median long term consensus price forecasts and historical metal prices over the past 5 years.
	An NSR value calculation was adopted, taking into account Ore Reserve revenue factors, metallurgical recovery assumptions, transport costs and refining charges and royalty charges.
Market assessment	Gold will be sold on the open market and subject to price fluctuations. Supply and demand for gold from Telfer and Havieron is not considered a constraint in the estimation of the Ore Reserve.
	Telfer has sold copper concentrate for its operational life into the world concentrate markets and this is assumed to continue under conditions similar to Newcrest's current market agreements over the life of the operational plan.
	Concentrate volume forecasts were derived from the Updated Ore Reserve production schedule.
Economic	The Ore Reserve has been evaluated through a financial model on a real cashflow basis. All operating and capital costs as well as revenue factors stated in this document were included in the financial model. A discount factor of 4.5% pa real was applied. This process demonstrated the Havieron Ore Reserve to have a positive NPV at current assumptions.
	Sensitivities were conducted on the key input parameters including commodity prices, capital and operating costs, ore grade, mined tonnes, exchange rate and metallurgical recoveries confirming the estimate to be robust.
Social	The traditional landowners, the Martu people and the WDLAC are key project stakeholders. The Martu hold exclusive possession native title rights and interests over more than 130,000km <sup>2</sup> of land, including to all points around the Telfer mine and Havieron Project. The ILUA with WDLAC, centred on the Telfer mine, extends to the Havieron Project.
Other	The only identified material naturally occurring risk at Havieron is flooding from large rain events typically associated with the cyclone season. The existing boxcut has been located and all other surface connections to the surface have been designed above a modelled 1 in 1,000 year Average Recurrence Interval (ARI) event where possible, or will be elevated such that large volumes of water cannot enter the mine workings.
	A number of State and Commonwealth statutory requirements are relevant to the Havieron Project and all aspects of the Project will comply with the relevant Government Acts and Regulations applicable in the jurisdiction of Western Australia.
	Approvals
	A Mining Lease has been granted over the orebody, and miscellaneous licence granted along the existing service corridor.
	A staged approach for approvals is being undertaken with Stage 1 currently approved which has allowed the development of the boxcut, decline and service corridor. These approvals also allow for a waste rock dump, evaporation ponds and supporting infrastructure such as offices and workshops. Minor additional approvals are in the process of being obtained and include a Groundwater Licence amendment and Part V approval to allow the operation of the evaporation ponds, waste water treatment plant and to allow construction of a landfill for non-mineralised waste.
	The Part V licence and registrations have approved Works Approvals and detailed consultation regarding the Groundwater Licence and associated Water Management Plan has occurred.
	The approvals for Stage 2 consist of both Commonwealth and State level approvals with engagement well advanced with all regulatory bodies. The approvals timelines outlined in the Stage 1 PFS are considered achievable.
	Stage 2 approvals are expected to consist of a SLOS underground mine, permanent infrastructure corridor, associated infrastructure and changes to Telfer approvals (processing of Havieron ore, Tailings Storage Facility 8 [TSF8] raise to accept Havieron tailings), groundwater use at Havieron.
	For Stage 2 approvals, an additional miscellaneous licence will be applied for to secure access for an infrastructure corridor to connect Telfer and Havieron (haul road, powerlines, water pipes). This is not considered a risk to the timelines or project.
Classification	The Ore Reserve classification is based on Indicated Mineral Resources only. No Measured Mineral Resources are stated for this deposit. This classification is based on geological confidence as a function of continuity and complexity of geological features; data spacing and distribution and estimation quality parameters including distance to informing samples for block grade estimation.
	Inferred Mineral Resource material contained within the mine plan shapes were set to zero grade and tonnes treated as internal dilution. It is the Competent Person's view that the classifications used for the Ore Reserves are appropriate.
Audits or reviews	The Ore Reserve Update mine design and schedule was conducted by Entech Pty Ltd, which included a review of the input assumptions. Entech found the input assumptions to be within accepted industry practice and suitable for the level of study.
	SRK Consulting (Australasia) Pty Ltd has completed an independent technical assessment of the 2022 Ore Reserve estimates completed by Greatland for the Havieron gold and copper deposit. As part of that assessment, SRK reviewed the reserve modelling methods and parameters and is of the opinion that they are reasonable and take into consideration all of the current exploration data and levels of technical knowledge of the Havieron deposit. SRK considers that the Ore Reserves have been reported in accordance with guidelines and principles outlined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 edition).

Discussion of relative accuracy/ confidence	The accuracy of the estimates within this Ore Reserve is mostly determined by the order of accuracy associated with the Mineral Resource estimate, the geotechnical inputs and the cost factors used. The Competent Person views the Havieron Ore Reserve a reasonable assessment of the global estimate. Some risk and opportunity is associated with the Ore Reserve process due to the greenfield nature of the mining component of project, and the brownfields nature of the Telfer Mine camp, process plant, power generation and related surface infrastructure. Remaining areas of uncertainty at this stage are associated with:
	<ul> <li>Cost base assumptions rely on current technology and macroeconomic factors. Changes to these assumptions will have an impact on the Ore Reserve estimate.</li> <li>The Modifying Factors (key inputs) for Ore Reserve estimation rely upon the geology and geotechnical data inherent to the orebody. This data, such as geological structures and rock mass properties, is to the appropriate definition and has been applied within the Stage 1 PFS, however further orebody data is required to confirm the geological and geotechnical information and is planned as part of the Forward Works Program.</li> <li>Newcrest stated on 17 February 2022 as part of their Half Year Results Update that the decline experienced difficulty in poor ground conditions during the early stages. The team is working to understand the impact on the development schedule and this may also impact on vertical development. First production ore is expected in FY24 (rather than H1 FY24) and more updates will be provided as information comes to hand.</li> <li>Mining throughput rate is based on equipment simulation studies considering the planned mine design and indicated that the 3 Mtpa through rate adopted in the study is appropriate, but is considered to be at the higher end of industry benchmark results. It is planned to be further investigated during the Forward Works Program.</li> </ul>